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TECHNICAL MEMORANDUM

REMEDIAL INVESTIGATION PHASE 1: SOURCE CHARACTERIZATION

**Remedial Investigation/Feasibility Study
Eagle Zinc Company Site,
Hillsboro, Illinois**

Submitted To:

**U.S. Environmental Protection Agency, Region V
and
Illinois Environmental Protection Agency**

Submitted By:

**ENVIRON International Corporation
Deerfield, Illinois**

On behalf of

Eagle Zinc Parties

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I. INTRODUCTION

A. Purpose of Report

This technical memorandum summarizes and evaluates the results of the Phase 1 Remedial Investigation (RI) conducted at the Eagle Zinc Company site (the "Site"), located in Hillsboro, Illinois. ENVIRON International Corporation (ENVIRON) has prepared this Technical Memorandum on behalf of the Eagle Zinc Parties (the "Parties") as part of the Remedial Investigation/Feasibility Study (RI/FS) for the Site. The RI/FS is being completed pursuant to the Statement of Work (SOW) contained in the December 31, 2001 Administrative Order on Consent (AOC) between the Parties and the U.S. Environmental Protection Agency (USEPA). All investigations were conducted in accordance with the AOC, the SOW, and the July 2002 *Remedial Investigation/Feasibility Study Work Plan* (the "RI/FS Work Plan").

As stated in the SOW and RI/FS Work Plan, the overall purpose of the RI is to investigate the Site's physical characteristics, identify sources of contamination, and determine the nature and extent of contamination at the Site. Consistent with the AOC governing the RI/FS, the RI has been designed to complement the prior investigations conducted at, and in the vicinity of the Site. The primary focus of the RI is to characterize the nature and extent of contamination at the site, to assess potential migration pathways by which the contaminants could impact human or ecological receptors, and to evaluate potential risks to those receptors. The RI includes two phases of investigation: Phase 1 (Source Characterization), and Phase 2 (Migration Pathway Assessment). The investigation results of the RI will be compiled and interpreted as a basis for performing a baseline risk assessment to establish the need for future remedial response activities for the Site.

The purpose of this technical memorandum is to summarize results obtained from the Phase 1 investigation, which involved the physical and chemical characterization (i.e., type, quantity, properties and concentrations) of residue piles and potential soil and sediment contaminant sources. The report also serves to refine and focus the Phase 2 RI (Migration Pathway Assessment).

B. Report Organization

Section I describes the purpose and organization of this report. Section II of this report provides a summary of the work conducted as part of the Phase 1 RI. Section III describes the physical characteristics of the areas investigated as part of the Phase 1 RI. Section IV presents the results of the Phase 1 RI, including the nature and extent of contamination. Section V presents an updated Site Conceptual Model. Section VI presents details of the Phase 2 investigation developed based on the Phase 1 results. A detailed discussion of site background information, including a description of the site, the history of the site, and a summary of previous investigations, was included in the RI/FS Work Plan and the PSE Report.

II. PHASE 1 – SOURCE CHARACTERIZATION

The Phase 1 field activities were conducted at the Site between July 8, 2002 and July 19, 2002. All field activities were conducted and/or supervised by ENVIRON. All soil borings and test excavations were conducted by Philip Services, Inc. (Philip). All laboratory analyses were conducted by EnChem, Inc. (EnChem) of Green Bay, Wisconsin. Site surveying work was conducted by Hurst-Rosche Engineers, Inc. of Hillsboro, Illinois. A preliminary ecological field survey was conducted at the site by Limno-Tech, Inc. of Ann Arbor, Michigan as part of the Ecological Risk Screening Evaluation. The results of the ecological field survey will be combined with an evaluation of the Phase 1 sediment data and Phase II surface water data and presented as part of the Baseline Risk Assessment (BRA) Report. The Phase 1 and Phase 2 Technical Memoranda and BRA Report will be integrated into the final RI Report.

A. Site Surveying

All surveying was completed by Hurst-Rosche Engineers, Inc. using a Global Positioning System (GPS) based system. The first task completed was the surveying of the pre-selected locations of 130 soil borings. Each boring location was marked with a stake and northing, easting and elevations were recorded. Based on field observations, some soil boring locations were adjusted the minimum practicable distance to allow drill rig access. Hurst-Rosche also completed the topographic survey of the Eagle Zinc property initiated in 1998 and located the Site property boundaries. A copy of the completed topographic survey map is included in Appendix A.

B. Soil Investigation

As discussed in the RI/FS Work Plan, soils in the following areas of the Site were investigated in Phase 1:

- The on-Site areas previously defined as Areas 1 through 4;
- On-Site areas located north and west of the manufacturing plant which were not sampled prior to the current RI; and
- The manufacturing plant area.

A total of 130 soil borings were completed in on-Site areas to characterize the nature and extent of organic and inorganic contaminant concentrations in soils (Figure II-1). Soil boring locations were determined in each area by randomly selecting sampling locations from an orthogonal grid, as discussed in the RI/FS Work Plan. The majority of soil borings were completed in the areas west and southwest of the manufacturing plant (Areas 1 through 4), on which raw materials and residual materials were historically stockpiled. Twenty-five (25) soil borings were completed in each of Areas 1 through 4. Soil borings were also completed in the manufacturing plant area and in the historically undeveloped northern and western portions of the site property. Ten (10) shallow soil borings were completed in each of these three areas. Figure II-1 shows all soil boring locations and Table II-1 provides details concerning the soil borings, including PID measurements.

Soil borings performed during the Phase 1 investigation were completed using a direct-push drilling apparatus (e.g., Geoprobe) equipped with 4-foot-long, 2-inch outside diameter macro-core samplers with dedicated polyethylene liners. All soil borings were sampled continuously from the ground surface to the completion depth. The completion depth was either 4 feet below ground surface (bgs) or two feet below the depth at which undisturbed¹ native soils were encountered, whichever was determined to be deeper. An experienced ENVIRON field engineer prepared a geological log for each soil boring. Soil boring logs are included in Appendix B. Field screening for organic vapors was conducted using a portable photoionization detector (PID) immediately after sample retrieval. In addition, each soil core was screened for metals concentrations using a hand-held portable X-ray fluorescence (XRF) analyzer. A stainless steel spoon was used to prepare a flat surface to take the XRF readings directly from the soil core. Two PID and

¹ Includes soils exhibiting no visually observable evidence of disturbance or mixing with surficial materials, such as Plant residues.

laboratory analysis of TCL organic compounds and PCBs were collected at the same depth as the original borings. Samples from 10% of the soil borings completed (a total of 13 samples) were retained for analysis of TCL organic compounds and PCBs.

As the decision as to which borings would be sampled for TAL metals from each area could not be made until all borings in that area were completed, soil from the uppermost one foot of undisturbed soil from each soil boring was placed in a zip-locked bag, labeled and stored in a cooler on ice. Upon completion of all soil borings in a given area, the XRF data was evaluated and a decision was made as to which samples would be retained for laboratory analysis of TAL metals. Following this determination, the soil that had been stored in zip-locked bags was placed in a laboratory prepared sample jar, labeled, and placed on ice for shipment to the laboratory.

Field duplicates were collected from samples S-NA-9-2 and A4-15-2 (rate of 1 duplicate per 20 soil samples) and submitted for laboratory analysis. The field duplicates were analyzed for TAL metals or TCL organic compounds plus PCBs, depending on the original sample analyses. Samples A3-23-2 and A2-7-3 were designated as a Matrix Spike/Matrix Spike Duplicates (MS/MSDs). Table II-1 shows XRF and PID screening results for the soil borings and the borings/depths selected for laboratory analysis. Figure II-1 shows the locations of borings at which soil samples were retained for laboratory analysis.

C. Sediment Investigation

A sediment investigation was conducted in on-Site and off-Site portions of the storm water/surface water drainageways that receive storm water discharges from the Site, border the Site, and enter the Site from adjacent upgradient properties. The samples were collected as grab samples in sediment accumulation areas at representative locations in the drainage ditchesstreams. The principal objective of the sediment investigation was to characterize the nature and extent of metals impacts on sediments in the drainageways and to determine upgradient background concentrations.

As described in the RI/FS Work Plan, 16 sediment samples were collected for fixed-base laboratory analysis, including 6 samples from the eastern drainageway, and 10 samples from the western drainageway. As shown on Figure II-2, 13 of the sediment

samples were collected downgradient of Outfalls 001 or 002 or at locations that may receive storm water runoff from the site (e.g., SD-WD-8). The remaining three sediment samples (SD-ED-11, SD-WD-5 and SD-WD-10) were collected to investigate upgradient or background conditions in the drainageways or areas not believed to have been impacted by the Site.

The following procedures were used to collect sediment samples for laboratory analysis. A sample of the stream sediment was obtained using stainless steel sampling tools, none of the sediment sampling locations required collection of sediment samples through a water column.³ All samples were collected from the uppermost six-inch interval of accumulated sediments. Each sample location was screened for organic vapors using a PID. After completion of field screening at all sediment sample locations, samples were collected for laboratory analysis from undisturbed sediments immediately adjacent to the PID screening locations. Upon completion of sampling, the geographic coordinates of each sediment sample location were logged using a hand-held GPS unit. The sampling generally proceeded from downstream to upstream to minimize any impacts from disturbed sediments.

All sediment samples were analyzed for TAL metals. In addition, four of the sediment samples (25 %) were analyzed for TCL organic compounds and PCBs.⁴ A field duplicate sample was collected from sample SD-WD-9 and submitted for laboratory analysis of TAL metals, TCL organic compounds, and PCBs.⁵ In addition, sample SD-ED-12 was designated as a MS/MSD. Table II-2 provides a summary of the sediment sampling locations and samples retained for laboratory analysis.

³ As discussed in the RI/FS Work Plan, surface water flow in the upper reaches of the drainageways (i.e., those segments located on-site or close to the site) is intermittent. Surface water was present at all sediment locations except for SD-ED-11, SD-ED-14 and SD-ED-15. At these locations, the sediment samples were collected from exposed portions of the stream bed or from exposed "islands" within the stream bed.

⁴ As none of the sediment samples exhibited above-background PID readings or other field evidence of contamination, the samples selected for organic analyses were those located closest to, yet downgradient of the manufacturing area (i.e., samples SD-ED-12, SD-ED-13, SD-WD-7 and SD-WD-9/9D).

⁵ As none of the downgradient sediment samples exhibited above-background PID readings or other field evidence of contamination, the field duplicate sample was collected at SD-WD-9, the on-site sediment sampling location with the greatest potential for site impacts.

D. Residue Investigation

Each residue pile or group of piles, identified by type of material, physical appearance, or spatial considerations, was evaluated by collecting representative samples in accordance with SW846 procedures and testing the samples for metals at a fixed-based laboratory using two leaching tests: the Toxicity Characteristic Leaching Procedure (TCLP); and the Synthetic Precipitation Leaching Procedure (SPLP). The residue samples were collected from trenches excavated to the base of the piles. A total of fifteen (15) residue samples were collected and analyzed.

During inspections performed at the on-set of the Phase 1 field activities, certain piles were grouped together for sampling purposes based on size, type and proximity, some additional piles were identified (new piles designated as "NP"), and some of the previously identified piles were processed on-site by the facility to produce a zinc and carbon-rich product, resulting in additional Rotary Residue Oversize (RRO) type piles. As such, the final number and locations of the sampled piles differed slightly from the locations depicted in the RI/FS Work Plan. Table II-3 provides information concerning the piles initially identified for potential sampling in the RI/FS Work Plan, the piles or pile groups actually sampled (including rationale for combining certain piles for sampling), and the residue types represented by the piles. Due to the impending closure of the plant, all historic residue processing operations have ceased. Figure II-3 shows the residue piles and associated sample designations. One gross sample was collected from each discrete residue pile or group of piles of the same type. Each gross sample was collected as a composite of several sample increments. Based on tabulated values of the Student's "T" statistic contained in SW-846, six sample increments were composited into a single gross sample for each pile or group of piles. The locations of the sample increments were spaced evenly across the horizontal extent of each pile.

A test excavation or trench was completed at each of the six sample increment locations, extending through the entire thickness of the pile. Equal-volume samples were collected from the bucket of the excavator at three depths from within the excavation: approximately one-quarter, one-half, and three-quarter depths from the top of the excavation. The visual appearance of each sample was logged, including color, composition, and estimated particle size(s). The three samples collected from the

excavations were mixed thoroughly to create the six sample increments. The six sample increments were then mixed thoroughly to produce the gross sample for the pile(s). All sample mixing was conducted in a clean 5-gallon bucket that was decontaminated prior to collection of each gross sample.

A field duplicate was collected for sample R-RR1-4 and submitted for laboratory analysis (rate of 1 out of every 20 samples). Sample R-RR2-11 was designated the Matrix Spike/Matrix Spike Duplicate (MS/MSD). Table II-3 provides a summary of the residue samples collected and analyses performed.

III. PHYSICAL CHARACTERISTICS OF THE STUDY AREA

The physical characteristics of the areas of the Site investigated during Phase 1 of the RI were discussed in detail in the March 2002 Preliminary Site Evaluation (PSE) Report, as well as the July 2002 RI/FS Work Plan. This information was assembled through inquiries made during completion of the PSE and from previous environmental reports concerning the Site. As such, the features noted below primarily reference discussions contained in the RI/FS Work Plan. Information relevant to the Phase 1 investigation is included as appropriate.

A. Surface Features

The Site's surface topography, storm water drainage, water bodies, and physiographic setting are described in detail in Section II.A.3.b of the RI/FS Work Plan. The historic plant residues are discussed in Section II.A.4 of the RI/FS Work Plan. The completed topographic survey map of the Site is included in Appendix A. The locations of residue piles observed at the Site at the time of the Phase 1 field activities are depicted on Figure II-3. During inspections performed at the on-set of the Phase 1 field activities, certain piles were grouped together for sampling purposes based on size, type and proximity, some additional piles were identified (new piles designated as "NP"), and some of the previously identified piles were processed on-site by the facility to produce a zinc and carbon-rich product, resulting in additional Rotary Residue Oversize (RRO) type piles. As such, the final number and locations of the sampled piles differed slightly from the locations depicted in the RI/FS Work Plan. Table II-3 provides information concerning the piles initially identified for potential sampling in the RI/FS Work Plan, the piles or pile groups actually sampled (including rationale for combining certain piles for sampling), and the residue types and estimated volumes represented by the piles. Due to the impending closure of the plant, all historic residue processing operations have ceased. The thickness of surface residues encountered in each soil borings is shown in Table II-1 and on the soil boring logs contained in Appendix B.

B. Local Meteorology

Meteorological data for the Site area are provided in Section II.A.3.a of the RI/FS Work Plan. In addition to the meteorological information presented in the RI/FS Work Plan, ENVIRON obtained a wind rose diagram for the Springfield, Illinois airport, which is located approximately 30 miles north of the site, but is expected to display similar average wind directions. As shown on the wind rose diagram contained in Appendix D, which displays the dominant average wind directions and ranges of wind speed for the year 1987, the dominant wind direction is towards the north and north-northeast, with moderate frequency in other eastward directions, and the lowest frequencies in the westward directions. The prevailing northward wind direction is consistent with the generalized meteorological information provided in the RI/FS Work Plan.

C. Surface Water Hydrology

The surface water hydrology of the Site and surrounding area is described in detail in Section II.A.3.b of the RI/FS Work Plan. Additional information concerning surface water quality in the Site's drainage systems and the interaction between the southwestern pond and ground water will be collected as part of the surface water and ground water investigations conducted during Phase 2 of the RI (Migration Pathway Assessment).

D. Site Geology

Information concerning the soils, overburden units (glacial deposits) and bedrock units that underlie the Site was presented in Section II.A.3.d of the RI/FS Work Plan. The observations made during completion of the Phase 1 soil borings support the general characterization of the overburden unit within the interval investigated as brown clay, silty clay and sandy clay, which is consistent with previous soil descriptions summarized in the PSE Report and RI/FS Work Plan.

E. Site Hydrogeology

Information concerning the Site hydrogeology was presented in Section II.A.3.e of the RI/FS Work Plan. Ground water was encountered in borings A1-18, A1-22, and A4-5 at depths ranging from 8 to 24 feet bgs, which is consistent with ground water

levels measured in these areas during previous ground water investigations conducted at the site.

F. Demography and Land Use

Information reviewed during the PSE indicated that, according to the 1990 census, approximately 8,500 people lived within a 4-mile radius of the site. Land use characteristics of the Site and surrounding area are described in Section II.A.2 of the RI/FS Work Plan.

G. Ecology

As discussed above, an Ecological Risk Screening Evaluation is a component of the Baseline Risk Assessment task. As part of this evaluation, a preliminary site visit was conducted by Limno-Tech, Inc. (LTI) during implementation of the Phase 1 field activities. The objectives of the site visit were to: 1) identify on-site or relevant off-site habitats, ecological receptors, contaminant source(s) and contaminant(s) migration routes; and 2) assess to the extent possible whether a potential for present or future ecological impacts exists based on contaminants, receptor, and potential migration pathways. No conclusions concerning the ecology of the Site or adjacent areas have been made by LTI.

IV. NATURE AND EXTENT OF CONTAMINATION

A. Soil Investigation

The analytical results for the soil samples are summarized in Tables IV-1 through IV-4. As applicable or relevant and appropriate requirements (ARARs) have not been established, in accordance with USEPA RI/FS guidance, the data were compared with Screening Levels to confirm/refine the Potential Areas of Concern (PAOCs) identified based on review of historical Site data during completion of the PSE. For the purpose of this evaluation, the Illinois Tiered Approach to Corrective Action Objectives (TACO) Tier I Soil Remediation Objectives (SROs) for commercial/industrial use were used as Screening Levels.⁶ The Screening Levels are listed in Tables IV-1 through IV-4. The Phase 1 laboratory data and data validation reports are submitted under separate cover.

Eleven (11) of the 26 soil samples contained metals concentrations above the Screening Levels. The concentrations of the metals detected above the Screening Levels, which included arsenic, cadmium and zinc, are shown on Figure IV-1. The exceedances of Screening Levels occurred at isolated locations within Area 1, Area 2, Area 3 and the Western Area. Zinc was detected above the Screening Level in only one sample (A1-6). The zinc concentration in this sample, 11,000 mg/kg, exceeded the Screening Level of 7,000 mg/kg, which is based on soil leaching to ground water. No VOCs, SVOCs or PCBs were detected in any of the soil samples at concentrations exceeding the respective Screening Levels.

The Screening Level for arsenic was slightly exceeded in three samples: A2-7, A2-19, and A3-19. The Screening Level that was exceeded at these three soil boring locations (11.3 mg/kg) represents average background conditions in non-metropolitan statistical areas (MSAs) of Illinois. Since the detected arsenic levels (12 mg/kg and 13 mg/kg) are very close to the non-MSA background value, which is the Screening Level for both residential and industrial/commercial land use, chemicals containing arsenic are not known to have been used at the Site, and arsenic was not detected in the leachate analyses of the residue piles (see discussion below).

⁶ The more conservative of the SROs for the ingestion/inhalation and soil-to-ground water pathways were used as the Screening Levels in the comparisons. The Screening Levels used for comparison, for those chemicals that exceeded a Screening Level, are shown on Figure IV-3.

Cadmium was detected above its Screening Level of 11mg/kg in nine samples, with concentrations ranging from 17 mg/kg to 87 mg/kg. Similar to zinc, the Screening Level for cadmium of 11 mg/kg is based on soil leaching to groundwater.

The XRF field screening data presented in Appendix C were used to further evaluate the spatial distribution of cadmium in soils. Because elevated XRF instrument detection limits prevented direct estimation of cadmium concentrations in many of the screening samples, the zinc/cadmium ratio from laboratory samples in which both metals were detected was used to estimate the cadmium concentrations at each screening location where direct estimation using XRF was not possible. The linear relationship between zinc and cadmium, which is plotted in Appendix E, indicates that a zinc concentration of 1,653 mg/kg would correspond to a cadmium concentration equal to the Screening Level of 11 mg/kg (for leaching of soil to ground water). Using the statistical “kriging” function provided by Environmental Visualization Software™ (EVS), the extent of zinc concentrations above this threshold are mapped out in Figure IV-2.⁷ On Figure IV-3, these areas are presented as an overlay on a map containing the soil boring locations and laboratory results exceeding the Screening Levels. As shown, the areas of Screening Level exceedances measured at the laboratory generally fall within the areas of cadmium exceedances predicted using EVS.

Based on these results, cadmium and zinc are designated as Potential Contaminants of Concern (PCOCs) for soil. As shown on Figure IV-3, the soil PAOCs are defined as those portions of Areas 1-4 and the Western Area that were characterized by soil samples exhibiting measured (laboratory quantified) and predicted (estimated from XRF data) concentrations of cadmium and zinc exceeding the Screening Levels. Actual ground water impacts, if any, will be measured during Phase 2 of the RI.

B. Sediment Investigation

The analytical results for the sediment samples are summarized in Tables IV-5 through IV-8. Similar to soils, TACO Soil Remediation Objectives were designated as Screening Levels for the purpose of confirming/refining PCOCs and PAOCs for sediment. Screening Levels corresponding to residential land use were used. Seven (7)

⁷ Kriging estimates constrained to sample areas.

of the 16 sediment samples collected for laboratory analysis contained one or more metal(s) above the Screening Levels. No VOC, SVOC, or PCB concentrations were detected in sediments above the respective Screening Levels in the Phase I investigation. Vinyl chloride was detected in sediment sample SD-WD-9D at a concentration of 13 ug/Kg, which slightly exceeds its Screening Level of 10 ug/Kg based on soil leaching to ground water. However, a duplicate sample collected at this location had a vinyl chloride concentration of 2.5 ug/Kg, which is below the Screening Level. In the eastern drainageway, zinc and cadmium were detected above the Screening Levels: zinc in sample SD-ED-16 at a concentration of 8,400 mg/kg; and zinc and cadmium in sample SD-ED-13 at concentrations of 11,000 mg/kg and 13 mg/kg, respectively. Only the highly conservative Screening Levels corresponding to leaching of soil to groundwater (7,500 mg/kg for zinc and 11 mg/kg for cadmium) were exceeded in these samples.

In the western drainageway, arsenic, antimony, cadmium, lead and zinc were detected above Screening Levels. Arsenic exceeded the Screening Level based on soil leaching to ground water of 11.3 mg/kg in samples SD-WD-7 and SD-WD-10.⁸ Antimony exceeded the Screening Level based on soil leaching to ground water of 5 mg/kg, which is in sample SD-WD-7. Cadmium exceeded the Screening Level based on soil leaching to ground water of 11 mg/kg in samples SD-WD-6, SD-WD-7, SD-WD-8, and SD-WD-9, and the Screening Level based on inhalation/ingestion (78 mg/kg) in samples SD-WD-7 and SD-WD-9. Lead exceeded the Screening Level based on inhalation/ingestion (400 mg/kg) in samples SD-WD-7 and SD-WD-8. Zinc exceeded the Screening Level based on soil leaching to ground water in samples SD-WD-6, SD-WD-7, and SD-WD-8 and SD-WD-9.

In summary, cadmium and zinc are considered PCOCs for sediment in the eastern drainageway, and antimony, arsenic, cadmium, lead, and zinc are considered PCOCs for sediment in the western drainageway. Based on these results, the portions of the eastern and western drainageways highlighted on Figure IV-4 are defined as PAOCs for sediments.

⁸ As discussed for soil, the Screening Level represents average soil background conditions in non-MSAs of Illinois. Sample SD-WD-10 was collected in a drainage sample and is not believed to have been impacted by the site based on low detected concentrations of zinc.

C. Residue Pile Investigation

The analytical results for the residue pile samples are summarized in Table IV-9. Typically, detected SPLP results were one to three orders of magnitude less than detected TCLP results, or had “non-detect” results, reflecting the mildly acidic solution used for the SPLP extraction. Three of the 15 piles/groups of piles, (RR1-3, RR2-11 and MP1-1) had a TCLP lead concentration in excess of 5.0 mg/L. Pile RR1-3 had a TCLP lead concentration of 14 mg/L (SPLP lead of <0.01 mg/L); pile RR2-11 had a TCLP lead concentration of 6 mg/L (SPLP lead of <0.01 mg/L); and pile MP1-21 had a TCLP lead concentration of 83 mg/L (SPLP lead of 0.62 mg/L). The TCLP lead results above the RCRA hazardous waste threshold of 5.0 mg/L are depicted on Figure IV-5. No other metals had TCLP results in excess of their respective RCRA hazardous waste threshold values⁹.

Based on these results, TCLP lead has been identified as a PCOC for the residues and the piles designated RR1-3, RR2-11 and MP1-21 are identified as PAOCs for residues. As discussed below, additional sampling of these residue piles during the Phase 2 investigation is proposed to provide additional characterization.

D. Off-Site Air Deposition

Based on available data and information concerning the residue piles, air deposition does not appear to have impacted off-site areas. As discussed above, the prevailing wind direction is from the south and south-southwest. Therefore, any impact would be the greatest in the area immediately north or north-northeast of the areas used for residue storage. A previous investigation conducted by IEPA addressed this issue through the collection of off-site surficial soil samples. None of this data suggest that off-site migration of contaminants through wind deposition has occurred. Inspection of western and northern property boundaries during the Phase 1 field activities showed no evidence of deposited residues in these areas or in adjacent off-site areas.

The Compilation of Air Pollutant Emission Factors, AP-42, Fifth Edition, Volume I: *Stationary Point and Area Sources*, in section 13.2.4 states “As the aggregate pile weathers, however, potential for dust emissions is greatly reduced.” In fact, the half-

⁹ The residue piles with TCLP lead results above the RCRA threshold are not necessarily hazardous waste.

life of this erosion potential ranges between 1 and 4 minutes. Therefore, any air erosion of the piles would be limited to a very short time period immediately following emplacement and would not be expected to occur over a protracted period of time. In addition, any impacts resulting from air erosion of residue piles would be expected to be the greatest closest to the source. Since no on-site soil impacts in the Northern Area of investigation were identified in the Phase I investigation, and existing off-site data show no impacts, off-site air erosion of residue piles and subsequent deposition is not considered a viable contaminant transport pathway at the Eagle Zinc site.

V. MODIFIED SITE CONCEPTUAL MODEL

Based on an evaluation of pre-existing site data presented in the PSE Report, affected environmental media, potential Contaminants of Concern (PCOCs), potential Areas of Concern (PAOCs), and potential exposure routes were identified as a preliminary Site Conceptual Model (SCM). Based on the Phase 1 sampling data for soils, sediment and residues, the SCM has been modified as follows:

| POTENTIAL CONTAMINANTS OF CONCERN (PCOCs) | | | | | |
|---|--------------------------------|--------------------------------|-------------|----------------------------|-----------------------------|
| On-Site Soil | Sediment – Western Drainageway | Sediment – Eastern Drainageway | Residues | Ground Water ¹⁰ | Surface Water ¹⁰ |
| Analytical Fractions | | | | | |
| TAL-Metals | TAL-Metals | TAL-Metals | TCLP Metals | TAL-Metals | TAL-Metals |
| Cadmium | Antimony | Antimony | TCLP-Lead | Cadmium | Chromium |
| Lead | Arsenic | Arsenic | | Lead | Copper |
| Zinc | Beryllium | Beryllium | | Manganese | Lead |
| | Cadmium | Cadmium | | Zinc | Manganese |
| | Lead | Lead | | Iron | Zinc |
| | Silver | Silver | | | Iron |
| | Thallium | Thallium | | | |
| | Zinc | Zinc | | | |
| | Organics | Organics | | Other Inorganics | Other Inorganics |
| | Vinyl Chloride | Vinyl Chloride | | Sulfate | Sulfate |

As compared with the PCOC summary included in the RI/FS Work Plan, zinc was added as a PCOC for on-site soil, and vinyl chloride was added as a PCOC for sediments. No specific modifications to the PCOC summary included in the RI/FS Work Plan were made for residues, ground water or surface water.

Based on exceedances of Screening Levels, the PAOCs for on-Site soil, sediment and residues are depicted on Figures IV-1, IV-2 and IV-3 and are summarized as follows:

¹⁰ From prior site data; to be reassessed during Phase 2.

| POTENTIAL AREAS OF CONCERN (PAOCs) | | | | |
|---|---|---|----------------------------|---|
| On-site Soil | Sediment | Residues | Ground Water ¹⁰ | Surface Water ¹⁰ |
| Area 1; Area 2; Area 3; Area 4 Western Area | Western Drainageway; Eastern Drainageway | RR1 Stockpiles ; RR2 Stockpiles ; MP Stockpiles | SW Part of Site | Western Drainageway; Eastern Drainageway |

As compared with the preliminary PAOC summary provided in the RI/FS Work Plan, for on-site soil, the Western Area was added as a PAOC. No specific modifications to the PAOC summary included in the RI/FS Work Plan were made for sediment, residues, ground water or surface water.

Based on a qualitative evaluation, the following potential on-Site and off-Site exposure routes have been identified:

| POTENTIAL EXPOSURE ROUTES | | | | | | | |
|---------------------------------|--|---|---|--|--|---------------------------------|--|
| | On-Site Soil | Residues | On-Site Sediments | Off-Site Sediments | On-Site Ground Water | Off-Site Ground Water | Surface Water |
| Potentially Affected Population | Employee; Construction Worker; Tresspasser; Future Resident ¹¹ ; Ecological Receptors | Construction Worker; Employee; Trespasser; Ecological Receptors | Construction Worker; Employee; Trespasser; Future Resident ¹¹ ; Ecological Receptors | Resident; Ecological Receptors | Construction Worker; Future Resident ¹¹ | Resident | Resident; Ecological Receptors |
| Exposure Route(s) | Ingestion/ Inhalation; Soil Leaching to Ground Water; Potential Ecological Impacts | Ingestion/ Inhalation | Ingestion/ Inhalation; Soil Leaching to Ground Water | Ingestion/ Inhalation; Soil Leaching to Ground Water; Potential Ecological Impacts | Ingestion | Incidental Residential Exposure | Secondary Residential Exposure; Potential Ecological Impacts |

No specific modifications were made to the Potential Exposure Routes summary presented in the RI/FS Work Plan based on The Phase 1 RI data. Potential ecological receptors/impacts were added to the on-site soil and on-site sediments categories, and

¹¹ This Scenario is hypothetical, as residential development of the site is not permitted under current zoning ordinances.

Tresspasser was added to on-site soil as a potentially affected population. In addition, based on differing affected populations and exposure routes, a distinction was made between on-site and off-site sediments.

As discussed in the RI/FS Work Plan, the Site Conceptual Model will be modified and supplemented as necessary during the course of the RI/FS, as additional data are generated and evaluated.

VI. PHASE 2 SAMPLING PROGRAM

In October 2002, Eagle Zinc Company announced that all manufacturing operations will permanently cease and that the facility will close by the end of 2002. This announcement is not expected to affect the completion of the RI/FS. Any data collected as a result of the plant closure activities that is relevant to the RI/FS will be included in future RI summaries. These data, if collected, are not part of the RI/FS; as such, they will not necessarily conform with all protocol set forth in the RI/FS Work Plan.

A. Surface Water Samples

Proposed locations for the collection of surface water samples during the Phase 2 investigation are shown on Figure VI-1. As described in the RI/FS Work Plan, each surface water sample is co-located with a sediment sample located downstream of the site that exhibited elevated metals concentrations or that represents upstream samples, which have not been impacted by Site operations, for each of the two major drainageways. Based on these selection criteria, it is estimated that up to ten (10) surface water samples will be collected, three (3) from the eastern drainageway, five (5) from the western drainageway, and two (2) from the pond.¹² All surface water samples will be analyzed for TAL metals and sulfate. In addition, as shown on Figure VI-1, five (5) of the samples will be analyzed for TCL organic compounds and PCBs.

B. Ground Water Investigation

The RI/FS Work Plan contained a proposal for the installation of 20 temporary wells, 10 of which would be sampled for screening purposes, with the remaining 10 wells used as piezometers. The RI/FS Work Plan also proposed the installation of 10 additional permanent monitoring wells to be co-located with selected temporary wells. As the installation and sampling of 10 temporary wells, followed by the installation and sampling of 10 permanent wells at the same locations would be duplicative, ENVIRON

¹² Adjustments in the sample locations may be necessary based on field observations made at the time of sample collection.

and the Parties propose the following course of action to address ground water in the Phase 2 sampling program.

- ~~Six~~ ^{four} (6) permanent piezometers and ~~six~~ (4) temporary piezometers will be installed, with ground water elevations determined as discussed in the RI/FS Work Plan. The proposed piezometer locations are shown on Figure VI-2. The piezometers will be installed as described in Appendix A of the RI/FS Work Plan, including geological logging of the borings during installation.
- Ten (10) additional permanent monitoring wells will be installed as described in the RI/FS Work Plan. Using the previously determined ground water flow pattern, the Phase 1 results, and the areal distribution requirements for the permanent monitoring wells contained in the PAOC, Figure VI-2 shows proposed locations for the permanent monitoring wells.¹³ These locations may be adjusted slightly based on the piezometric information obtained from the temporary piezometers and existing monitoring wells.
- Sampling of the newly installed and existing monitoring wells will proceed as discussed in the RI/FS Work Plan.
- A staff gauge will be installed in the southwest pond and surveyed to determine pond water levels during the Phase 2 investigation.

C. Collection of Additional Residue Data

The piles/pile groups designated as RR1-3, RR2-11 and MP1-21 will be further characterized by subdividing each pile/group into sections and collecting one gross composite sample from each section for laboratory analysis of TCLP lead. Based on volumetric estimates each pile will be divided into a number of equal sections. Eight (8) composite samples will be collected from pile RR2-11, two (2) composite samples will be collected from pile RR1-3, and between 2 and 4 composite samples will be collected

¹³ Slight adjustments to the aerial distribution noted in the RI/FS Work Plan made based on Phase 1 results.

from the MP piles.¹⁴ Each sections composite sample will be composed of at least three sample increments, collected either as depth composites or area composites.¹⁵ The results of the composite samples will be used to better define sections of the piles that exceed the TCLP RCRA hazardous waste threshold value for lead of 5.0 mg/L. Based on this additional sampling piles may be separated into separated section based on whether the new composite samples exceed the TCLP RCRA hazardous waste values.

D. Collection of Soil pH Data

To determine site-wide soil pH conditions, one soil sample will be collected for laboratory soil pH analysis from each of the 20 soil borings used for installation of the monitoring wells and piezometers. Each soil pH sample will be collected at a depth of two feet below the depth at which undisturbed native soil is encountered.

*I disagree, should be 1 foot below
as this is depth that soil
samples were collected during pH I.*

¹⁴ To be determined following additional estimation of the MP pile volumes.

¹⁵ Similar to the sampling procedure employed during the Phase 1 residue sampling program, the depth composites will be collected at three equally spaced depths within the pile by completing test trenches. Area composites, consisting of sample increments spaced equally across the section to be sampled, will be collected for lower, horizontally extensive piles.

T A B L E S

Table II-1: Soil Sampling Summary
 (page 1 of 5)

| Soil Area | Soil Boring | Residue Thickness (ft) | Soil Boring Depth (ft) | Max PID (ppm, _v) | Sum of XRF Metals Concentrations for PCOCs (ppm, _v) ¹ | Lab Sample ID | Sample Depth Interval (ft) | Lab Analyses |
|-----------|-------------|------------------------|------------------------|------------------------------|--|---------------|----------------------------|--|
| A1 | 1 | 1 | 4 | 0 | 502 | | | |
| A1 | 2 | 2 | 8 | 0 | 604.8 | | | |
| A1 | 3 | 7 | 12 | 0 | 1040 | S-A1-3-9 | 8-9 | TAL Metals |
| A1 | 4 | 1.5 | 4 | 0 | 210.6 | | | |
| A1 | 5 | 0.8 | 4 | 0 | 1739.2 | | | |
| A1 | 6 | 8 | 12 | 0 | 9068.8 | SA-A1-6-9 | 8-9 | TAL Metals TAL Metals TCL VOCs/SVOCs PCBs |
| A1 | 7 | 1.5 | 4 | 0 | 4748.8 | S-A1-7-3 | 2-3 | TAL Metals TCL VOCs/SVOCs PCBs |
| A1 | 8 | 1 | 4 | 0 | 1349.6 | | | |
| A1 | 9 | 3 | 8 | 0 | 2379.2 | | | |
| A1 | 10 | 2 | 4 | 0 | 979.2 | | | |
| A1 | 11 | 1.5 | 4 | 0 | 1149.6 | | | |
| A1 | 12 | 2 | 8 | 0 | 2388.8 | | | |
| A1 | 13 | 0 | 4 | 0 | 1988.8 | | | |
| A1 | 14 | 5 | 8 | 0 | 1520 | | | |
| A1 | 15 | 9 | 12 | 0 | 2828.8 | | | |
| A1 | 16 | 9 | 12 | 0 | 1449.6 | | | |
| A1 | 17 | 5 | 8 | 0 | 3289.6 | | | |
| A1 | 18 | 28 | 28 | NA | NA | | | |
| A1 | 19 | 11.5 | 16 | 0 | 208.2 | | | |
| A1 | 20 | 0 | 4 | 0 | 1480 | | | |
| A1 | 21 | 20 | 24 | | 2788.8 | | | |
| A1 | 22 | 28 | 28 | NA | NA | | | |
| A1 | 23 | 6 | 8 | 0 | 6508.8 | S-A1-23-7 | 6-7 | TAL Metals TCL VOCs/SVOCs PCBs |
| A1 | 24 | 10 | 12 | 0 | 4108.8 | S-A1-24-10 | 9-10 | TAL Metals |
| A1 | 25 | 0 | 4 | 0 | 831.2 | | | |

1. XRF screening of uppermost one foot interval of undisturbed native soil.
 Samples S-A4-15-2D and S-NA-9-2D collected as field duplicates.

*: Designated as MS/MSD.

Table II-1: Soil Sampling Summary

(page 2 of 5)

| Soil Area | Soil Boring | Residue Thickness (ft) | Soil Boring Depth (ft) | Max PID (ppm _v) | Sum of XRF Metals Concentrations for PCOCs (ppm _v) ¹ | Lab Sample ID | Sample Depth Interval (ft) | Lab Analyses |
|-----------|-------------|------------------------|------------------------|-----------------------------|---|---------------|----------------------------|--------------------------------------|
| A2 | 1 | 6 | 8 | 0 | 294.2 | | | |
| A2 | 2 | 2 | 4 | 0 | 842.4 | | | |
| A2 | 3 | 1.5 | 4 | 0 | 513.2 | | | |
| A2 | 4 | 4.2 | 8 | 0 | 164.2 | | | |
| A2 | 5 | 3.5 | 8 | 0 | 0 | | | |
| A2 | 6 | 0 | 4 | 0 | 222.2 | | | |
| | | | | | | | | TAL Metals TCL VOCs/SVOCs PCBs |
| A2 | 7 | 0.5 | 4 | 0 | 1814.7 | S-A2-7-3* | 2-3 | |
| A2 | 8 | 5.5 | 8 | 0 | 155.9 | | | |
| A2 | 9 | 0.2 | 4 | 0 | 409.2 | | | |
| A2 | 10 | 0 | 4 | 0 | 1249.6 | | | |
| A2 | 11 | 1 | 4 | 0 | 291.2 | | | |
| A2 | 12 | 1 | 4 | 0 | 913.6 | | | |
| A2 | 13 | 0.5 | 4 | 0 | 2200.4 | | | |
| A2 | 14 | 4.5 | 8 | 0 | 812 | | | |
| | | | | | | | | TAL Metals TCL VOCs/SVOCs PCBs |
| A2 | 15 | 2 | 4 | 0 | 1629.6 | S-A2-15-3 | 2-3 | |
| A2 | 16 | 0.8 | 4 | 0 | 170.7 | | | |
| A2 | 17 | 0 | 4 | 0 | 406 | | | |
| A2 | 18 | 1 | 4 | 0 | 3308.8 | | | |
| | | | | | | | | TAL Metals TCL VOCs/SVOCs PCBs |
| A2 | 19 | 0.5 | 4 | 0 | 1629.6 | S-A2-19-6 | 1-2 | |
| A2 | 20 | 0.8 | 4 | 0 | 476 | | | |
| A2 | 21 | 1.5 | 8 | 0 | 666 | | | |
| A2 | 22 | 0 | 4 | 0 | 706 | | | |
| A2 | 23 | 2 | 4 | 0 | 2939.2 | S-A2-23-3 | 2-3 | TAL Metals |
| A2 | 24 | 2 | 4 | 0 | 2432.1 | S-A2-24-3 | 2-3 | TAL Metals |
| A2 | 25 | 0 | 4 | 0 | 508 | | | |

1. XRF screening of uppermost one foot interval of undisturbed native soil.

Samples S-A4-15-2D and S-NA-9-2D collected as field duplicates.

* Designated as MS/MSD.

Table II-1: Soil Sampling Summary

(page 3 of 5)

| Soil Area | Soil Boring | Residue Thickness (ft) | Soil Boring Depth (ft) | Max PID (ppm _v) | Sum of XRF Metals Concentrations for PCOCs (ppm _v) ¹ | Lab Sample ID | Sample Depth Interval (ft) | Lab Analyses |
|-----------|-------------|------------------------|------------------------|-----------------------------|---|---------------|----------------------------|--------------------------------------|
| A3 | 1 | 1 | 4 | 0 | 417.6 | | | |
| A3 | 2 | 0 | 4 | 0 | 319.4 | | | |
| A3 | 3 | 3 | 8 | 0 | 843.2 | | | |
| A3 | 4 | 1 | 4 | 0 | 3486 | | | |
| A3 | 5 | 1.5 | 4 | 0 | 212.4 | | | |
| A3 | 6 | 0 | 4 | 0 | 354.2 | | | |
| A3 | 7 | 9 | 12 | 0 | 219.2 | | | |
| A3 | 8 | 4 | 8 | 0 | 490.4 | | | |
| A3 | 9 | 1 | 4 | 0 | 466.4 | | | |
| A3 | 10 | 0 | 4 | 0 | 353.4 | | | |
| A3 | 11 | 4 | 8 | 0 | 592 | | | |
| A3 | 12 | 1.5 | 4 | 0 | 614 | | | |
| A3 | 13 | 4.5 | 8 | 0 | 351.6 | | | |
| A3 | 14 | 0 | 4 | 0 | 276.2 | | | |
| A3 | 15 | 4 | 8 | 0 | 812.8 | | | |
| A3 | 16 | 5 | 8 | 0 | 450 | | | |
| A3 | 17 | 4 | 8 | 0 | 635.6 | | | |
| A3 | 18 | 2 | 4 | 0 | 1009.6 | | | |
| A3 | 19 | 4 | 8 | 0 | 1389.6 | S-A3-19-5 | 4-5 | TAL Metals |
| | | | | | | | | TAL Metals TCL VOCs/SVOCs PCBs |
| A3 | 20 | 0 | 4 | 0 | 1160 | S-A3-20-2 | 1-2 | |
| A3 | 21 | 2 | 4 | 0 | 2419.2 | | | |
| A3 | 22 | 5 | 8 | 0 | 3009.6 | S-A3-22-6 | 5-6 | TAL Metals |
| | | | | | | | | TAL Metals TCL VOCs/SVOCs PCBs |
| A3 | 23 | 2 | 4 | 0 | 1200 | S-A3-23-2* | 1-2 | |
| A3 | 24 | 1 | 4 | 0 | 1160 | | | |
| | | | | | | | | TAL Metals TCL VOCs/SVOCs PCBs |
| A3 | 25 | 1 | 4 | 0 | 1089.6 | S-A3-25-2 | 1-2 | |

1. XRF screening of uppermost one foot interval of undisturbed native soil.

Samples S-A4-15-2D and S-NA-9-2D collected as field duplicates.

*: Designated as MS/MSD.

Table II-1: Soil Sampling Summary
 (page 4 of 5)

| Soil Area | Soil Boring | Residue Thickness (ft) | Soil Boring Depth (ft) | Max PID (ppm _v) | Sum of XRF Metals Concentrations for PCOCs (ppm _v) ¹ | Lab Sample ID | Sample Depth Interval (ft) | Lab Analyses |
|-----------|-------------|------------------------|------------------------|-----------------------------|---|--------------------------|----------------------------|----------------|
| A4 | 1 | 3 | 8 | 0 | 1389.6 | S-A4-1-6 | 1-2 | TAL Metals |
| A4 | 2 | 1.5 | 4 | 0 | 295.2 | | | |
| A4 | 3 | 1 | 4 | 0 | 2320 | S-A4-3-2 | 1-2 | TAL Metals |
| A4 | 4 | 3 | 8 | 0 | 131.6 | | | |
| A4 | 5 | 4 | 4 | NA | NA | | | |
| A4 | 6 | 0.8 | 4 | 0 | 383.6 | | | |
| A4 | 7 | 2 | 4 | 0 | 225 | | | |
| A4 | 8 | 4 | 8 | 0 | 0 | | | |
| A4 | 9 | 0 | 4 | 0 | 356.8 | | | |
| A4 | 10 | 6 | 8 | 0 | 401.6 | | | |
| A4 | 11 | 0 | 4 | 0 | 515.2 | | | |
| A4 | 12 | 0.3 (0.5-0.8) | 4 | 0 | 504.4 | | | |
| A4 | 13 | 1.5 | 4 | 0 | 598 | | | |
| A4 | 14 | . | 4 | 0 | 758.8 | | | |
| | | | | | | | | TAL Metals |
| | | | | | | | | TCL VOCs/SVOCs |
| A4 | 15 | 2 | 4 | 0 | 1480 | S-A4-15-2/ S-A4-15-2D | 1-2 | PCBs |
| A4 | 16 | 2 | 4 | 0 | 894.4 | | | |
| A4 | 17 | 3 | 8 | 0 | 1329.6 | S-A4-17-2 | 1-2 | TAL Metals |
| A4 | 18 | 1.2 | 4 | 0 | 233.4 | | | |
| A4 | 19 | 2 | 4 | 0 | 1140 | | | |
| A4 | 20 | 4 | 8 | 0 | 567.2 | | | |
| A4 | 21 | 1.5 | 4 | 0 | 1209.6 | | | |
| | | | | | | | | TAL Metals |
| | | | | | | | | TCL VOCs/SVOCs |
| A4 | 22 | 0 | 4 | 0 | 1920 | S-A4-22-2 | 1-2 | PCBs |
| A4 | 23 | 1 | 4 | 0 | 554.4 | | | |
| A4 | 24 | 0 (trace) | 4 | 0 | 586.8 | | | |
| A4 | 25 | 1 | 4 | 0 | 337.6 | | | |

1. XRF screening of uppermost one foot interval of undisturbed native soil.
 Samples S-A4-15-2D and S-NA-9-2D collected as field duplicates.

*: Designated as MS/MSD.

Table II-1: Soil Sampling Summary
 (page 5 of 5)

| Soil Area | Soil Boring | Residue Thickness (ft) | Soil Boring Depth (ft) | Max PID (ppm _v) | Sum of XRF Metals Concentrations for PCOCs (ppm _v) ¹ | Lab Sample ID | Sample Depth Interval (ft) | Lab Analyses |
|-----------|-------------|------------------------|------------------------|-----------------------------|---|------------------------|----------------------------|--------------------------------------|
| MA | 1 | 2 | 4 | 0 | 476 | | | |
| MA | 2 | 2 | 4 | 0 | 327 | | | |
| MA | 3 | 5 | 8 | 0 | 0 | | | |
| MA | 4 | 4 | 8 | 0 | 261.6 | | | |
| MA | 5 | 2 | 4 | 0 | 398 | | | |
| MA | 6 | 2.5 | 8 | 0 | 1739.2 | S-MA-6-4 | 3-4 | TAL Metals |
| MA | 7 | 0 | 4 | 0 | 193.5 | | | |
| MA | 8 | 1 | 4 | 0 | 295 | S-MA-8-2 | 1-2 | TAL Metals TCL VOCs/SVOCs PCBs |
| MA | 9 | 0.5 | 4 | 0 | 1500 | S-MA-9-2 | 1-2 | TAL Metals |
| MA | 10 | 0 | 4 | 0 | 272.6 | | | |
| WA | 1 | 0 | 4 | 0 | 155.3 | | | |
| WA | 2 | 0 | 4 | 0 | 0 | | | |
| WA | 3 | 0 | 4 | 0 | 233.2 | | | |
| WA | 4 | 0 | 4 | 0 | 440 | | | |
| WA | 5 | 0 | 4 | 0 | 122.5 | | | |
| WA | 6 | 0 | 4 | 0 | 175 | | | |
| WA | 7 | 0 | 4 | 0 | 1309.6 | | | |
| WA | 8 | 0 | 4 | 0 | 1582.6 | S-WA-8-2 | 1-2 | TAL Metals TCL VOCs/SVOCs PCBs |
| WA | 9 | 0 | 8 | 0 | 1319.3 | S-WA-9-2 | 1-2 | TAL Metals |
| WA | 10 | 1.5 | 4 | 0 | 1020 | | | |
| NA | 1 | 0 | 4 | 0 | 223.8 | | | |
| NA | 2 | 0 | 4 | 0 | 0 | | | |
| NA | 3 | 0 | 4 | 0 | 207 | | | |
| NA | 4 | 0 | 4 | 0 | 416.4 | | | |
| NA | 5 | 0 | 4 | 0 | 196.8 | | | |
| NA | 6 | 0 | 4 | 0 | 122.9 | | | |
| NA | 7 | 0 | 4 | 0 | 289 | | | |
| NA | 8 | 0 | 4 | 0 | 1868.8 | S-NA-8-2 | 1-2 | TAL Metals |
| NA | 9 | 0 | 4 | 0 | 584.4 | S-NA-9-2/ S-NA-9-2D | 1-2 | TAL Metals TCL VOCs/SVOCs PCBs |
| NA | 10 | 0 | 4 | 0 | 636 | | | |

1. XRF screening of uppermost one foot interval of undisturbed native soil.
 Samples S-A4-15-2D and S-NA-9-2D collected as field duplicates.

*: Designated as MS/MSD.

Table II-2: Sediment Sampling Summary

| Drainageway | Onsite/ Offsite | Lab Sample number | PID (ppm.) | Lab Analyses |
|-------------|--------------------|----------------------|------------|--------------------------------------|
| Western | Offsite | SD-WD-1 | 0 | TAL Metals |
| Western | Offsite | SD-WD-2 | 0 | TAL Metals |
| Western | Offsite | SD-WD-3 | 0 | TAL Metals |
| Western | Offsite | SD-WD-4 | 0 | TAL Metals |
| Western | Offsite | SD-WD-5 | 0 | TAL Metals |
| Western | Offsite | SD-WD-6 | 0 | TAL Metals |
| Western | Offsite | SD-WD-7 | 0 | TAL Metals TCL VOCs/SVOCs PCBs |
| Western | Offsite | SD-WD-8 | 0 | TAL Metals |
| Western | Onsite | SD-WD-9/ SW-WD-9D | 0 | TAL Metals TCL VOCs/SVOCs PCBs |
| Western | Offsite | SD-WD-10 | 0 | TAL Metals |
| Eastern | Offsite | SD-ED-11 | 0 | TAL Metals |
| Eastern | Onsite | SD-ED-12* | 0 | TAL Metals TCL VOCs/SVOCs PCBs |
| Eastern | Offsite | SD-ED-13 | 0 | TAL Metals TCL VOCs/SVOCs PCBs |
| Eastern | Offsite | SD-ED-14 | 0 | TAL Metals |
| Eastern | Offsite | SD-ED-15 | 0 | TAL Metals |
| Eastern | Offsite | SD-ED-16 | 0 | TAL Metals |

* Designated as MS/MSD
SW-WD-9D collected as a field duplicate

Table II-3: Residue Sampling Summary

| Lab Sample Number | Residue Pile ID from RI/FS Workplan | Residue Type | Lab Analyses | Volume Estimates (cu.yds.) | Comments |
|----------------------|-------------------------------------|--------------|--------------|----------------------------|--|
| R-RR1-1 | 1 | RR1 | TCLP/SPLP | 1,400 | -- |
| R-RR1-2 | 2 | RR1 | TCLP/SPLP | 2,300 | -- |
| R-RR1-3 | 3 | RR1 | TCLP/SPLP | 1,100 | -- |
| R-RR1-4/ R-RR1-4D | 4 | RR1 | TCLP/SPLP | 2,700 | -- |
| R-RCO-5 | 5 | RCO | TCLP/SPLP | 3,200 | -- |
| R-CPH-6 | 6 | CPH | TCLP/SPLP | 800 | -- |
| R-CPH-9 | 9 | CPH | TCLP/SPLP | 800 | -- |
| R-RCO-10 | 10 | RCO | TCLP/SPLP | 4,500 | -- |
| R-RR2-11* | 11 | RR2 | TCLP/SPLP | 8,000 | -- |
| R-RRO-12 | 12 | RRO | TCLP/SPLP | 11,600 | -- |
| R-NP-13 | 14,15,16 | unk | TCLP/SPLP | 400 | These piles were grouped for sampling because of their small size, proximity and similar appearance. |
| R-NP-14 | 17,18,19,20 | unk | TCLP/SPLP | 500 | These piles were grouped for sampling because of their small size, proximity and similar appearance. |
| R-NP-15 | NI | MP | TCLP/SPLP | 1,100 | This pile was not identified in the RI/FS Work Plan. Based on its appearance this appears to be an older pile. |
| R-NP-16 | NI | RRO | TCLP/SPLP | 5,000 | This pile was not identified in the RI/FS Work Plan. This is a newer pile which has accumulated as a result of on-site residue processing. |
| R-MP-21 | 21 | MP | TCLP/SPLP | 500 | -- |

* Designated as MS/MSD

R-RR1-4D collected as a duplicate sample

NI = Residue pile not identified in RI/FS Workplan

RR1 = Rotary Residue Type 1

RR2 = Rotary Residue Type 2

RCO = Rotary Clean Out

RRO = Rotary Residue Oversized

CPH = Carbon Plant Hutch

MP = Miscellaneous Piles

unk = Unknown pile type

Table IV-1
Soil Sample Results
Volatile Organic Compounds
Eagle Zinc Company Site, Hillsboro, IL

| Parameter | | 1,1,1-Trichloroethane | 1,1,2,2-Tetrachloroethane | 1,1,2-Trichloroethane | 1,1,2-Trichlorotrifluoroethane | 1,1-Dichloroethane | 1,1-Dichloroethene | 1,2,4-Trichlorobenzene | 1,2-Dibromo-3-chloropropane | 1,2-Dibromoethane | 1,2-Dibromobenzene | 1,2-Dichloroethane | 1,2-Dichloropropane | 1,3-Dichlorobenzene | 1,4-Dichlorobenzene | 2-Butanone | 2-Hexanone | |
|--|--------|-----------------------|---------------------------|-----------------------|--------------------------------|--------------------|--------------------|------------------------|-----------------------------|-------------------|--------------------|--------------------|---------------------|---------------------|---------------------|------------|------------|-------|
| Screening Levels ug/kg | | | | | | | | | | | | | | | | | | |
| Ingestion/ Inhalation Industrial/ Commercial | | 1,200,000 | -- | 1,800,000 | -- | 130,000 | 300,000 | 920,000 | 110 | 70 | 310,000 | 700 | 500 | -- | 340,000 | -- | -- | |
| Soil -> GW | | 2,000 | -- | 20 | -- | 23,000 | 60 | 5,000 | 2 | 0.4 | 17,000 | 20 | 30 | -- | 2,000 | -- | -- | |
| Eagle Zinc Company Site Data (ug/kg) | | | | | | | | | | | | | | | | | | |
| FieldID | Matrix | Collection Date | | | | | | | | | | | | | | | | |
| S-A1-7-3 | SOIL | 07/19/2002 | 1.3 U | 1.4 U | 1.2 U | 1.6 U | 1.4 U | 1.6 U | 1.4 U | 1.6 U | 1.2 U | 1.6 U | 1.4 U | 1 U | 1.1 U | 1.5 U | 2.1 R | 1.8 U |
| S-A1-23-7 | SOIL | 07/19/2002 | 1.6 U | 1.8 U | 1.5 U | 2 U | 1.7 U | 2 U | 1.8 U | 2.0 U | 1.5 U | 2 U | 1.8 U | 1.3 U | 1.4 U | 1.9 U | 2.6 R | 2.2 U |
| S-NA-9-2 | SOIL | 07/19/2002 | 1.1 U | 1.1 U | 0.95 U | 1.3 U | 1.1 U | 1.3 U | 1.1 U | 1.3 U | 0.96 U | 1.3 U | 1.2 U | 0.85 U | 0.93 U | 1.2 U | 1.7 R | 1.4 U |
| S-NA-92D | SOIL | 07/19/2002 | 1.1 U | 1.2 U | 0.97 U | 1.3 U | 1.1 U | 1.3 U | 1.2 U | 1.3 U | 0.98 U | 1.3 U | 1.2 U | 0.86 U | 0.94 U | 1.3 U | 1.7 R | 1.5 U |
| S-MA-8-2 | SOIL | 07/19/2002 | 1.7 U | 1.8 U | 1.5 U | 2.1 U | 1.8 U | 2.1 U | 1.8 U | 2.1 U | 1.5 U | 2 U | 1.8 U | 1.3 U | 1.5 U | 2 U | 2.7 R | 2.3 U |
| S-WA-8-2 | SOIL | 07/19/2002 | 1.7 U | 1.8 U | 1.5 U | 2.1 U | 1.8 U | 2.1 U | 1.8 U | 2.1 U | 1.5 U | 2 U | 1.8 U | 1.3 U | 1.5 U | 2 U | 8.1 J | 2.3 U |
| MB1824233 | SOIL | 07/19/2002 | 0.81 U | 0.87 U | 0.73 U | 1 U | 0.86 U | 1 U | 0.88 U | 1 U | 0.74 U | 0.99 U | 0.89 U | 0.65 U | 0.71 U | 0.95 U | 1.3 U | 1.1 U |
| MB2824233 | SOIL | 07/19/2002 | 0.81 U | 0.87 U | 0.73 U | 1 U | 0.86 U | 1 U | 0.88 U | 1 U | 0.74 U | 0.99 U | 0.89 U | 0.65 U | 0.71 U | 0.95 U | 1.3 U | 1.1 U |
| A3-23-2 | SOIL | 07/19/2002 | 2 U | 2.1 U | 1.8 U | 2.4 U | 2.1 U | 2.4 U | 2.2 U | 2.4 U | 1.8 U | 2.4 U | 2.2 U | 1.6 U | 1.7 U | 2.3 U | 3.2 R | 2.7 U |
| A3-20-2 | SOIL | 07/19/2002 | 1.6 U | 1.7 U | 1.4 U | 1.9 U | 1.7 U | 1.9 U | 1.7 U | 1.9 U | 1.4 U | 1.9 U | 1.7 U | 1.3 U | 1.4 U | 1.8 U | 2.5 R | 2.1 U |
| A3-25-2 | SOIL | 07/19/2002 | 1.3 U | 1.4 U | 1.2 U | 1.6 U | 1.4 U | 1.6 U | 1.4 U | 1.6 U | 1.2 U | 1.6 U | 1.4 U | 1 U | 1.1 U | 1.5 U | 4.4 J | 1.7 U |
| A2-19-4 | SOIL | 07/19/2002 | 1.5 U | 1.6 U | 1.3 U | 1.8 U | 1.6 U | 1.8 U | 1.6 U | 1.8 U | 1.4 U | 1.8 U | 1.6 U | 1.2 U | 1.3 U | 1.7 U | 2.4 R | 2 U |
| A2-7-3 | SOIL | 07/19/2002 | 1.5 U | 1.7 U | 1.4 U | 1.9 U | 1.6 U | 1.9 U | 1.7 U | 1.9 U | 1.4 U | 1.9 U | 1.7 U | 1.2 U | 1.4 U | 1.8 U | 2.5 U | 2.1 U |
| A2-15-3 | SOIL | 07/19/2002 | 1.3 U | 1.4 U | 1.2 U | 1.6 U | 1.4 U | 1.6 U | 1.4 U | 1.6 U | 1.2 U | 1.6 U | 1.4 U | 1 U | 1.1 U | 1.5 U | 2.1 U | 1.7 U |
| A4-22-2 | SOIL | 07/19/2002 | 0.82 U | 0.88 U | 0.74 U | 1 U | 0.87 U | 1 U | 0.89 U | 1 U | 0.75 U | 1 U | 0.9 U | 0.66 U | 0.72 U | 0.96 U | 1.7 J | 1.1 U |
| A4-15-2 | SOIL | 07/19/2002 | 0.9 U | 0.97 U | 0.82 U | 1.1 U | 0.96 U | 1.1 U | 0.98 U | 1.1 U | 0.83 U | 1.1 U | 0.99 U | 0.73 U | 0.79 U | 1.1 U | 1.5 U | 1.2 U |
| A4-15-2D | SOIL | 07/19/2002 | 0.9 U | 0.97 U | 0.81 U | 1.1 U | 0.96 U | 1.1 U | 0.98 U | 1.1 U | 0.83 U | 1.1 U | 0.99 U | 0.73 U | 0.79 U | 1.1 U | 1.5 U | 1.2 U |

* The more conservative Screening Level for m-xylene and p-xylene was used

**Total 1,3-DCP summed from tran and cis lab results

Exceeds Screening Level for Soil -> GW pathway

Exceeds Screening Level for ingestion / inhalation

Detection Limit above Screening Level

U: indicates undetected at concentration

J: Estimated Value

R: Result is rejected and unusable

C: Elevated detection limit due to matrix

&: Lab control spike recovery not within control limits

*: Duplicate analyses not within control

N: Spiked sample not within control limits

Table IV-1
Soil Sample Results
Volatile Organic Compounds
Eagle Zinc Company Site, Hillsboro, IL

| Parameter | | 4-Methyl-2-pentanone | Acetone | Benzene | Bromo-dichloromethane | Bromoform | Bromo-methane | Carbon disulfide | Carbon tetrachloride | Chlorobenzene | Chlorodibromomethane | Chloroethane | Chloroform | Chloromethane | cis-1,2-Dichloroethene | cis-1,3-Dichloropropene | trans-1,3-Dichloropropene | |
|--|--------|----------------------|---------|---------|-----------------------|-----------|---------------|------------------|----------------------|---------------|----------------------|--------------|------------|---------------|------------------------|-------------------------|---------------------------|--------|
| Screening Levels ug/kg | | | | | | | | | | | | | | | | | | |
| Ingestion/ Inhalation Industrial/ Commercial | | | | | | | | | | | | | | | | | | |
| Soil -> GW | -- | 16,000 | 30 | 600 | 800 | -- | 32,000 | 70 | 1,000 | 400 | -- | 600 | -- | 400 | -- | -- | | |
| Eagle Zinc Company Site Data (ug/kg) | | | | | | | | | | | | | | | | | | |
| FieldID | Matrix | Collection Date | | | | | | | | | | | | | | | | |
| S-A1-7-3 | SOIL | 07/19/2002 | 1.1 U | 4.3 R& | 1.5 U | 1.4 U | 1.2 U | 1.9 U | 1.9 U | 1.5 U | 1.6 U | 1.3 U | 1.3 U | 1.4 U | 1.3 U | 1.6 U | 1.1 U | 1 U |
| S-A1-23-7 | SOIL | 07/19/2002 | 1.4 U | 5.4 R& | 1.8 U | 1.7 U | 1.6 U | 2.4 U | 2.4 U | 1.9 U | 2 U | 1.6 U | 1.7 U | 1.7 U | 1.6 U | 2 U | 1.4 U | 1.3 U |
| S-NA-9-2 | SOIL | 07/19/2002 | 0.93 U | 3.5 R& | 1.2 U | 1.1 U | 1 U | 1.6 U | 1.6 U | 1.2 U | 1.3 U | 1 U | 1.1 U | 1.1 U | 1 U | 1.3 U | 0.91 U | 0.82 U |
| S-NA-92D | SOIL | 07/19/2002 | 0.94 U | 4.4 J& | 1.2 U | 1.1 U | 1 U | 1.6 U | 1.6 U | 1.2 U | 1.3 U | 1 U | 1.1 U | 1.1 U | 1 U | 1.3 U | 0.93 U | 0.84 U |
| S-MA-8-2 | SOIL | 07/19/2002 | 1.5 U | 5.6 R& | 1.9 U | 1.8 U | 1.6 U | 2.5 U | 2.5 U | 1.9 U | 2 U | 1.6 U | 1.7 U | 1.8 U | 1.6 U | 2.1 U | 1.4 U | 1.3 U |
| S-WA-8-2 | SOIL | 07/19/2002 | 1.5 U | 30 J& | 1.9 U | 1.7 U | 1.6 U | 2.5 U | 2.5 U | 1.9 U | 2 U | 1.6 U | 1.7 U | 1.7 U | 1.6 U | 2.1 U | 1.4 U | 1.3 U |
| MB1824233 | SOIL | 07/19/2002 | 0.71 U | 2.7 R& | 0.91 U | 0.85 U | 0.77 U | 1.2 U | 1.2 U | 0.94 U | 0.99 U | 0.79 U | 0.84 U | 0.85 U | 0.78 U | 1 U | 0.7 U | 0.63 U |
| MB2824233 | SOIL | 07/19/2002 | 0.71 U | 2.7 R& | 0.91 U | 0.85 U | 0.77 U | 1.2 U | 1.2 U | 0.94 U | 0.99 U | 0.79 U | 0.84 U | 0.85 U | 0.78 U | 1 U | 0.7 U | 0.63 U |
| A3-23-2 | SOIL | 07/19/2002 | 1.7 U | 61 J& | 2.2 U | 2.1 U | 1.9 U | 2.9 U | 2.9 U | 2.3 U | 2.4 U | 1.9 U | 2.1 U | 2.1 U | 1.9 U | 2.4 U | 1.7 U | 1.5 U |
| A3-20-2 | SOIL | 07/19/2002 | 1.4 U | 5.2 R& | 1.8 U | 1.6 U | 1.5 U | 2.3 U | 2.3 U | 1.8 U | 1.9 U | 1.5 U | 1.6 U | 1.6 U | 1.5 U | 1.9 U | 1.4 U | 1.2 U |
| A3-25-2 | SOIL | 07/19/2002 | 1.1 U | 23 J& | 1.4 U | 1.4 U | 1.2 U | 1.9 U | 1.9 U | 1.5 U | 1.6 U | 1.3 U | 1.3 U | 1.4 U | 1.2 U | 1.6 U | 1.1 U | 1 U |
| A2-19-4 | SOIL | 07/19/2002 | 1.3 U | 4.9 R& | 1.7 U | 1.6 U | 1.4 U | 2.2 U | 2.2 U | 1.7 U | 1.8 U | 1.4 U | 1.5 U | 1.6 U | 1.4 U | 1.8 U | 1.3 U | 1.2 U |
| A2-7-3 | SOIL | 07/19/2002 | 1.4 U | 5.2 R& | 1.7 U | 1.6 U | 1.5 U | 2.3 U | 2.3 U | 1.8 U | 1.9 U | 1.5 U | 1.6 U | 1.6 U | 1.5 U | 1.9 U | 1.3 U | 1.2 U |
| A2-15-3 | SOIL | 07/19/2002 | 1.1 U | 4.3 R& | 1.4 U | 1.3 U | 1.2 U | 1.9 U | 1.9 U | 1.5 U | 1.6 U | 1.3 U | 1.3 U | 1.3 U | 1.2 U | 1.6 U | 1.1 U | 1 U |
| A4-22-2 | SOIL | 07/19/2002 | 0.72 U | 5.8 J& | 0.92 U | 0.86 U | 0.78 U | 1.2 U | 1.2 U | 0.95 U | 1 U | 0.8 U | 0.85 U | 0.86 U | 0.79 U | 1 U | 0.71 U | 0.64 U |
| A4-15-2 | SOIL | 07/19/2002 | 0.79 U | 3 R& | 1 U | 0.95 U | 0.86 U | 1.3 U | 1.3 U | 1 U | 1.1 U | 0.88 U | 0.94 U | 0.95 U | 0.87 U | 1.1 U | 0.78 U | 0.7 U |
| A4-15-2D | SOIL | 07/19/2002 | 0.79 U | 3 R& | 1 U | 0.95 U | 0.86 U | 1.3 U | 1.3 U | 1 U | 1.1 U | 0.88 U | 0.94 U | 0.95 U | 0.87 U | 1.1 U | 0.78 U | 0.7 U |

* The more conservative Screening Level for m-xylene and p-xylene was used

** Total 1,3-DCP summed from tran and cis lab results

Exceeds Screening Level for Soil -> GW pathway

Exceeds Screening Level for ingestion / inhalation

Detection Limit above Screening Level

U: indicates undetectable at concentration

J: Estimated Value

R: Result is rejected and unusable

C: Elevated detection limit due to matrix

&: Lab control spike recovery not within control limits

*: Duplicate analyses not within control

N: Spiked sample not within control limits

Table IV-1
Soil Sample Results
Volatile Organic Compounds
Eagle Zinc Company Site, Hillsboro, IL

| Parameter | | 1,3 DCP (total)** | Cyclo- hexane | Dichloro- difluoro- methane | Ethyl- benzene | Fluorotri- chloro- methane | Isopropyl- benzene | Methyl Acetate | Methyl-tert- butyl-ether | Methyl- cyclo- hexane | Methyl-ene chloride | Styrene | Tetrachloro ethene | Toluene | trans-1,2- Dichloroeth- ene | Trichloro- ethene | Vinyl chloride | |
|---|--------|----------------------|------------------|-----------------------------------|-------------------|----------------------------------|-----------------------|-------------------|-----------------------------|-----------------------------|------------------------|---------|-----------------------|---------|-----------------------------------|----------------------|-------------------|--------|
| Screening Levels ug/kg | | | | | | | | | | | | | | | | | | |
| Ingestion/ Inhalation Industrial/ Commercial | | 390 | -- | -- | 58,000 | -- | -- | -- | -- | -- | 24,000 | 430,000 | 20,000 | 42,000 | 3,100,000 | 8,900 | 1,100 | |
| Soil -> GW | | 4 | -- | -- | 13,000 | -- | -- | -- | -- | -- | 20 | 4,000 | 60 | 12,000 | 700 | 60 | 10 | |
| Eagle Zinc Company Site Data (ug/kg) | | | | | | | | | | | | | | | | | | |
| FieldID | Matrix | Collection Date | | | | | | | | | | | | | | | | |
| S-A1-7-3 | SOIL | 07/19/2002 | 2.1 U | 4.2 U | 1.1 U | 1.4 U | 1.8 U | 1.3 U | 4.5 U | 1.5 U | 4.3 U | 3.1 J | 1.3 U | 1.8 U | 1.6 U | 1.3 U | 1.6 U | 1.4 U |
| S-A1-23-7 | SOIL | 07/19/2002 | 2.7 U | 5.2 U | 1.4 U | 1.7 U | 2.2 U | 1.6 U | 5.6 U | 1.9 U | 5.4 U | 3.9 J | 1.6 U | 2.2 U | 2 U | 1.7 U | 2 U | 1.8 U |
| S-NA-9-2 | SOIL | 07/19/2002 | 1.73 U | 3.4 U | 0.93 U | 1.1 U | 1.4 U | 1 U | 3.6 U | 1.2 U | 3.5 U | 2.5 J | 1 U | 1.4 U | 1.3 U | 1.1 U | 1.3 U | 1.2 U |
| S-NA-92D | SOIL | 07/19/2002 | 1.77 U | 3.5 U | 0.94 U | 1.1 U | 1.5 U | 1 U | 3.7 U | 1.2 U | 3.6 U | 3.2 J | 1.1 U | 1.5 U | 1.3 U | 1.1 U | 1.3 U | 1.2 U |
| S-MA-8-2 | SOIL | 07/19/2002 | 2.7 U | 5.4 U | 1.5 U | 1.8 U | 2.3 U | 1.6 U | 5.8 U | 1.9 U | 5.6 U | 3.8 J | 1.7 U | 2.3 U | 2 U | 1.7 U | 2.1 U | 1.8 U |
| S-WA-8-2 | SOIL | 07/19/2002 | 2.7 U | 5.3 U | 1.5 U | 1.8 U | 2.3 U | 1.6 U | 5.8 U | 1.9 U | 5.5 U | 4.7 J | 1.6 U | 2.3 U | 2 U | 1.7 U | 2.1 U | 1.8 U |
| MB1824233 | SOIL | 07/19/2002 | 1.33 U | 2.6 U | 0.71 U | 0.86 U | 1.1 U | 0.79 U | 2.8 U | 0.93 U | 2.7 U | 0.9 U | 0.8 U | 1.1 U | 0.97 U | 0.83 U | 1 U | 0.89 U |
| MB2824233 | SOIL | 07/19/2002 | 1.33 U | 2.6 U | 0.71 U | 0.86 U | 1.1 U | 0.79 U | 2.8 U | 0.93 U | 2.7 U | 0.9 U | 0.8 U | 1.1 U | 0.97 U | 0.83 U | 1 U | 0.89 U |
| A3-23-2 | SOIL | 07/19/2002 | 3.2 U | 6.4 U | 1.7 U | 2.1 U | 2.7 U | 1.9 U | 6.9 U | 2.3 U | 6.6 U | 6.7 J | 2 U | 2.7 U | 2.4 U | 2 U | 2.4 U | 2.2 U |
| A3-20-2 | SOIL | 07/19/2002 | 2.6 U | 5 U | 1.4 U | 1.7 U | 2.1 U | 1.5 U | 5.4 U | 1.8 U | 5.2 U | 9.3 J | 1.5 U | 2.1 U | 1.9 U | 1.6 U | 1.9 U | 1.7 U |
| A3-25-2 | SOIL | 07/19/2002 | 2.1 U | 4.1 U | 1.1 U | 1.4 U | 1.7 U | 1.3 U | 4.5 U | 1.5 U | 4.3 U | 1.6 J | 1.3 U | 1.7 U | 1.5 U | 1.3 U | 1.6 U | 1.4 U |
| A2-19-4 | SOIL | 07/19/2002 | 2.5 U | 4.8 U | 1.3 U | 1.6 U | 2 U | 1.4 U | 5.1 U | 1.7 U | 4.9 U | 3.8 J | 1.5 U | 2 U | 1.8 U | 1.5 U | 1.8 U | 1.6 U |
| A2-7-3 | SOIL | 07/19/2002 | 2.5 U | 5 U | 1.4 U | 1.6 U | 2.1 U | 1.5 U | 5.3 U | 1.8 U | 5.2 U | 3.6 J | 1.5 U | 2.1 U | 1.9 U | 1.6 U | 1.9 U | 1.7 U |
| A2-15-3 | SOIL | 07/19/2002 | 2.1 U | 4.1 U | 1.1 U | 1.4 U | 1.7 U | 1.3 U | 4.4 U | 1.5 U | 4.3 U | 2.9 J | 1.3 U | 1.7 U | 1.5 U | 1.3 U | 1.6 U | 1.4 U |
| A4-22-2 | SOIL | 07/19/2002 | 1.35 U | 2.6 U | 0.72 U | 0.87 U | 1.1 U | 0.8 U | 2.8 U | 0.94 U | 2.7 U | 0.91 U | 0.81 U | 1.1 U | 0.98 U | 0.84 U | 1 U | 0.9 U |
| A4-15-2 | SOIL | 07/19/2002 | 1.48 U | 2.9 U | 0.79 U | 0.96 U | 1.2 U | 0.88 U | 3.1 U | 1 U | 3 U | 1 U | 0.89 U | 1.2 U | 1.1 U | 0.93 U | 1.1 U | 0.99 U |
| A4-15-2D | SOIL | 07/19/2002 | 1.48 U | 2.9 U | 0.79 U | 0.96 U | 1.2 U | 0.88 U | 3.1 U | 1 U | 3 U | 1 U | 0.89 U | 1.2 U | 1.1 U | 0.93 U | 1.1 U | 0.99 U |

* The more conservative Screening Level for m-xylene and p-xylene was used

**Total 1,3-DCP summed from tran and cis lab results

Exceeds Screening Level for Soil -> GW pathway

Exceeds Screening Level for ingestion / inhalation

Detection Limit above Screening Level

U: indicates undetected at concentration

J: Estimated Value

R: Result is rejected and unusable

C: Elevated detection limit due to matrix

&: Lab control spike recovery not within control limits

#: Duplicate analyses not within control

N: Spiked sample not within control limits

Table IV-2
Soil Sample Results
Semivolatile Organic Compounds
Eagle Zinc Company Site, Hillsboro, IL

| Parameter | 1,2,4-Trichlorobenzene | 1,2-Dichlorobenzene | 1,3-Dichlorobenzene | 1,4-Dichlorobenzene | 2,2'-oxy-bis-(1-Chloropropane) | 2,4,5-Trichlorophenol | 2,4,6-Trichlorophenol | 2,4-Dichlorophenol | 2,4-Dimethylphenol | 2,4-Dinitrophenol | 2,4-Dinitrotoluene | 2,6-Dinitrotoluene |
|--|------------------------|---------------------|---------------------|---------------------|--------------------------------|-----------------------|-----------------------|--------------------|--------------------|-------------------|--------------------|--------------------|
| Screening Levels ug/kg | | | | | | | | | | | | |
| Ingestion/-Inhalation Industrial/ Commercial | 920,000 | 310,000 | -- | 340,000 | -- | 200,000,000 | 390,000 | 610,000 | 41,000,000 | 410,000 | 8,400 | 8,400 |
| Soil -> GW | 5,000 | 17,000 | -- | 2,000 | -- | 270,000 | 200 | 1,000 | 9,000 | 200 | 0.8 | 0.7 |
| Eagle Zinc Company Site Data in ug/Kg | | | | | | | | | | | | |
| Field ID | Matrix | Collection Date | | | | | | | | | | |
| S-A1-7-3 | SOIL | 07/19/2002 | 120 U | 110 U | 120 U | 110 U | 84 U | 120 U | 77 U | 120 U | 170 U | 160 U |
| S-A1-23-7 | SOIL | 07/19/2002 | 110 U | 100 U | 110 U | 100 U | 78 U | 110 U | 72 U | 110 U | 160 U | 150 U |
| S-NA-9-2 | SOIL | 07/19/2002 | 110 U | 110 U | 110 U | 110 U | 81 U | 110 U | 75 U | 110 U | 160 U | 160 U |
| S-NA-92D | SOIL | 07/19/2002 | 110 U | 110 U | 110 U | 110 U | 82 U | 110 U | 76 U | 110 U | 160 U | 160 U |
| S-MA-8-2 | SOIL | 07/19/2002 | 140 U | 130 U | 140 U | 130 U | 100 U | 140 U | 93 U | 140 U | 200 U | 190 U |
| S-WA-8-2 | SOIL | 07/19/2002 | 120 U | 110 U | 120 U | 110 U | 86 U | 120 U | 79 U | 120 U | 170 U | 170 U |
| MB1824233 | SOIL | 07/19/2002 | 90 U | 85 U | 90 U | 85 U | 65 U | 90 U | 60 U | 90 U | 130 U | 130 U |
| A3-23-2 | SOIL | 07/19/2002 | 110 U | 100 U | 110 U | 100 U | 78 U | 110 U | 72 U | 110 U | 160 U | 150 U |
| A3-20-2 | SOIL | 07/19/2002 | 110 U | 100 U | 110 U | 100 U | 80 U | 110 U | 74 U | 110 U | 160 U | 150 U |
| A3-25-2 | SOIL | 07/19/2002 | 110 U | 100 U | 110 U | 100 U | 80 U | 110 U | 74 U | 110 U | 160 U | 150 U |
| A2-19-4 | SOIL | 07/19/2002 | 110 U | 110 U | 110 U | 110 U | 81 U | 110 U | 75 U | 110 U | 160 U | 160 U |
| A2-7-3 | SOIL | 07/19/2002 | 120 U | 110 U | 120 U | 110 U | 85 U | 120 U | 78 U | 120 U | 170 U | 160 U |
| A2-15-3 | SOIL | 07/19/2002 | 120 U | 110 U | 120 U | 110 U | 84 U | 120 U | 77 U | 120 U | 170 U | 160 U |
| A4-22-2 | SOIL | 07/19/2002 | 120 U | 110 U | 120 U | 110 U | 83 U | 120 U | 77 U | 120 U | 170 U | 160 U |
| A4-15-2 | SOIL | 07/19/2002 | 110 U | 110 U | 110 U | 110 U | 81 U | 110 U | 75 U | 110 U | 160 U | 160 U |
| A4-15-2D | SOIL | 07/19/2002 | 120 U | 110 U | 120 U | 110 U | 83 U | 120 U | 77 U | 120 U | 170 U | 160 U |

Exceeds Screening Level for Soil -> GW pathway

Exceeds Screening Level for ingestion / inhalation

Detection Limit above Screening Level

U: indicates undetected at concentration listed

J: Estimated Value

R: Result is rejected and unusable

C: Elevated detection limit due to matrix effect

&: Lab control spike recovery not within control limits

*: Duplicate analyses not within control limits

N: Spiked sample not within control limits

Table IV-2
Soil Sample Results
Semivolatile Organic Compounds
Eagle Zinc Company Site, Hillsboro, IL

| Parameter | | 2-Chloro-naphthalene | 2-Chlorophenol | 2-Methyl-naphthalene | 2-Methyl-phenol | 2-Nitro-aniline | 2-Nitro-phenol | 3,3-Dichlorobenzidine | 3-Nitro-aniline | 4,6-Dinitro-2-methyl-phenol | 4-Bromo-phenyl phenyl ether | 4-Chloro-3-methyl-phenol | 4-Chloro-aniline | 4-Chlorophenyl phenyl ether | |
|---|--------|----------------------|----------------|----------------------|-----------------|-----------------|----------------|-----------------------|-----------------|-----------------------------|-----------------------------|--------------------------|------------------|-----------------------------|-------|
| Screening Levels ug/kg | | | | | | | | | | | | | | | |
| Ingestion-/Inhalation Industrial/ Commercial | | | | | | | | | | | | | | | |
| Soil -> GW | -- | -- | -- | 100,000,000 | -- | -- | 13,000 | -- | -- | -- | -- | 820,000 | -- | -- | |
| Eagle Zinc Company Site Data in ug/Kg | | | | | | | | | | | | | | | |
| Field ID | Matrix | Collection Date | 90 U | 100 U | 100 U | 120 U | 170 U | 97 U | 170 U& | 65 U | 140 U | 77 U | 140 U | 77 U& | 120 U |
| S-A1-7-3 | SOIL | 07/19/2002 | 84 U | 96 U | 96 U | 110 U | 160 U | 90 U | 160 U& | 60 U | 130 U | 72 U | 130 U | 72 U& | 110 U |
| S-A1-23-7 | SOIL | 07/19/2002 | 87 U | 100 U | 100 U | 110 U | 160 U | 94 U | 160 U& | 62 U | 130 U | 75 U | 130 U | 75 U& | 110 U |
| S-NA-9-2 | SOIL | 07/19/2002 | 88 U | 100 U | 100 U | 110 U | 160 U | 95 U | 160 U& | 63 U | 130 U | 76 U | 130 U | 76 U& | 110 U |
| S-NA-92D | SOIL | 07/19/2002 | 110 U | 120 U | 120 U | 140 U | 200 U | 120 U | 200 U& | 77 U | 160 U | 93 U | 160 U | 93 U& | 140 U |
| S-MA-8-2 | SOIL | 07/19/2002 | 93 U | 110 U | 110 U | 120 U | 170 U | 99 U | 170 U& | 66 U | 140 U | 79 U | 140 U | 79 U& | 120 U |
| S-WA-8-2 | SOIL | 07/19/2002 | 70 U | 80 U | 80 U | 90 U | 130 U | 75 U | 130 U& | 50 U | 110 U | 60 U | 110 U | 60 U& | 90 U |
| MB1824233 | SOIL | 07/19/2002 | 84 UN | 96 U | 96 U | 110 U | 160 U | 90 U | 160 U&N | 60 UN | 130 U | 72 UN | 130 U | 72 U&N | 110 U |
| A3-23-2 | SOIL | 07/19/2002 | 86 U | 99 U | 99 U | 110 U | 160 U | 92 U | 160 U& | 62 U | 130 U | 74 U | 130 U | 74 U& | 110 U |
| A3-20-2 | SOIL | 07/19/2002 | 86 U | 99 U | 99 U | 110 U | 160 U | 92 U | 160 U& | 62 U | 130 U | 74 U | 130 U | 74 U& | 110 U |
| A3-25-2 | SOIL | 07/19/2002 | 87 U | 99 U | 99 U | 110 U | 160 U | 93 U | 160 U& | 62 U | 130 U | 75 U | 130 U | 75 U& | 110 U |
| A2-19-4 | SOIL | 07/19/2002 | 91 U | 100 U | 100 U | 120 U | 170 U | 98 U | 170 U& | 65 U | 140 U | 78 U | 140 U | 78 U& | 120 U |
| A2-7-3 | SOIL | 07/19/2002 | 90 U | 100 U | 100 U | 120 U | 170 U | 97 U | 170 U& | 64 U | 140 U | 77 U | 140 U | 77 U& | 120 U |
| A2-15-3 | SOIL | 07/19/2002 | 90 U | 100 U | 100 U | 120 U | 170 U | 97 U | 170 U& | 64 U | 140 U | 77 U | 140 U | 77 U& | 120 U |
| A4-22-2 | SOIL | 07/19/2002 | 90 U | 100 U | 100 U | 120 U | 170 U | 96 U | 170 U& | 64 U | 130 U | 77 U | 130 U | 77 U& | 120 U |
| A4-15-2 | SOIL | 07/19/2002 | 88 U | 100 U | 100 U | 110 U | 160 U | 94 U | 160 U& | 63 U | 130 U | 75 U | 130 U | 75 U& | 110 U |
| A4-15-2D | SOIL | 07/19/2002 | 90 U | 100 U | 100 U | 120 U | 170 U | 96 U | 170 U& | 64 U | 130 U | 77 U | 130 U | 77 U& | 120 U |

Exceeds Screening Level for Soil -> GW pathway

Exceeds Screening Level for ingestion / inhalation

Detection Limit above Screening Level

U: indicates undetected at concentration listed

J: Estimated Value

R: Result is rejected and unusable

C: Elevated detection limit due to matrix effect

&: Lab control spike recovery not within control limits

*: Duplicate analyses not within control limits

N: Spiked sample not within control limits

Table IV-2
Soil Sample Results
Semivolatile Organic Compounds
Eagle Zinc Company Site, Hillsboro, IL

| Parameter | 4-Methyl-phenol | 4-Nitro-aniline | 4-Nitro-phenol | Acena-phthene | Acena-phthylene | Acetophenone | Anthra-cene | Atrazine | Benz-alde-hyde | Benzo(a)anthracene | Benzo(b)fluoranthene | Benzo(a)pyrene | Benzo(g,h,i)-perylene | | |
|--|-----------------|-----------------|----------------|---------------|-----------------|--------------|-------------|-----------|----------------|--------------------|----------------------|----------------|-----------------------|-------|-------|
| Screening Levels ug/kg | | | | | | | | | | | | | | | |
| Ingestion-/Inhalation Industrial/ Commercial | -- | -- | -- | 120,000,000 | -- | -- | 610,000,000 | 7,100,000 | -- | 8,000 | 800 | 8,000 | -- | | |
| Soil -> GW | -- | -- | -- | 570,000 | -- | -- | 12,000,000 | 66 | -- | 2,000 | 8,000 | 5,000 | -- | | |
| Eagle Zinc Company Site Data in ug/Kg | | | | | | | | | | | | | | | |
| Field ID | Matrix | Collection Date | | | | | | | | | | | | | |
| S-A1-7-3 | SOIL | 07/19/2002 | 100 U | 310 U | 300 U | 110 U | 97 U | 120 U | 84 U | 77 U | 90 U | 120 U | 97 U | 150 U | 97 U |
| S-A1-23-7 | SOIL | 07/19/2002 | 96 U | 290 U | 280 U | 100 U | 90 U | 110 U | 78 U | 72 U | 84 U | 110 U | 90 U | 140 U | 90 U |
| S-NA-9-2 | SOIL | 07/19/2002 | 100 U | 300 U | 290 U | 110 U | 94 U | 110 U | 81 U | 75 U | 87 U | 110 U | 94 U | 150 U | 94 U |
| S-NA-92D | SOIL | 07/19/2002 | 100 U | 300 U | 300 U | 110 U | 95 U | 110 U | 82 U | 76 U | 88 U | 110 U | 95 U | 150 U | 95 U |
| S-MA-8-2 | SOIL | 07/19/2002 | 120 U | 370 U | 360 U | 130 U | 120 U | 140 U | 100 U | 93 U | 110 U | 140 U | 120 U | 190 U | 120 U |
| S-WA-8-2 | SOIL | 07/19/2002 | 110 U | 320 U | 310 U | 110 U | 99 U | 120 U | 86 U | 79 U | 93 U | 120 U | 99 U | 160 U | 99 U |
| MB1824233 | SOIL | 07/19/2002 | 80 U | 240 U | 240 U | 85 U | 75 U | 90 U | 65 U | 60 U | 70 U | 90 U | 75 U | 120 U | 75 U |
| A3-23-2 | SOIL | 07/19/2002 | 96 U | 290 U | 280 U | 100 UN | 90 UN | 110 U | 78 UN | 72 U | 84 U | 110 U | 90 U | 140 U | 90 U |
| A3-20-2 | SOIL | 07/19/2002 | 99 U | 300 U | 290 U | 100 U | 92 U | 110 U | 80 U | 74 U | 86 U | 110 U | 92 U | 150 U | 92 U |
| A3-25-2 | SOIL | 07/19/2002 | 99 U | 300 U | 290 U | 100 U | 92 U | 110 U | 80 U | 74 U | 86 U | 110 U | 92 U | 150 U | 92 U |
| A2-19-4 | SOIL | 07/19/2002 | 99 U | 300 U | 290 U | 110 U | 93 U | 110 U | 81 U | 75 U | 87 U | 110 U | 93 U | 150 U | 93 U |
| A2-7-3 | SOIL | 07/19/2002 | 100 U | 310 U | 310 U | 110 U | 98 U | 120 U | 85 U | 78 U | 91 U | 120 U | 98 U | 160 U | 98 U |
| A2-15-3 | SOIL | 07/19/2002 | 100 U | 310 U | 300 U | 110 U | 97 U | 120 U | 84 U | 77 U | 90 U | 120 U | 97 U | 150 U | 97 U |
| A4-22-2 | SOIL | 07/19/2002 | 100 U | 310 U | 300 U | 110 U | 96 U | 120 U | 83 U | 77 U | 90 U | 120 U | 96 U | 150 U | 96 U |
| A4-15-2 | SOIL | 07/19/2002 | 100 U | 300 U | 290 U | 110 U | 94 U | 110 U | 81 U | 75 U | 88 U | 110 U | 94 U | 150 U | 94 U |
| A4-15-2D | SOIL | 07/19/2002 | 100 U | 310 U | 300 U | 110 U | 96 U | 120 U | 83 U | 77 U | 90 U | 120 U | 96 U | 150 U | 96 U |

Exceeds Screening Level for Soil -> GW pathway

Exceeds Screening Level for ingestion / inhalation

Detection Limit above Screening Level
U: indicates undetected at concentration listed

J: Estimated Value

R: Result is rejected and unusable

C: Elevated detection limit due to matrix effect

&: Lab control spike recovery not within control limits

*: Duplicate analyses not within control limits

N: Spiked sample not within control limits

Table IV-2
Soil Sample Results
Semivolatile Organic Compounds
Eagle Zinc Company Site, Hillsboro, IL

| Parameter | Benzo-(k)-fluor-anthene | Biphenyl | bis-(2-Chloroethoxy)-methane | bis-(2-Chloroethyl)-ether | bis(2-Ethylhexyl)phthalate | Butyl-benzyl-phthalate | Caprolactam | Carbazole | Chrysene | Di-n-butyl-phthalate | Di-n-octyl-phthalate | Dibenzo-(a,h)anthracene | | |
|--|-------------------------|-----------------|------------------------------|---------------------------|----------------------------|------------------------|-------------|-----------|----------|----------------------|----------------------|-------------------------|-------|--------|
| Screening Levels ug/kg | | | | | | | | | | | | | | |
| Ingestion-/Inhalation Industrial/ Commercial | 78,000 | -- | -- | 47,000 | 410,000 | 930,000 | -- | 290,000 | 780,000 | 2,300,000 | 10,000,000 | 800 | | |
| Soil -> GW | 49,000 | -- | -- | | 3,600,000 | 930,000 | -- | 600 | 160,000 | 2,300,000 | 10,000,000 | 2,000 | | |
| Eagle Zinc Company Site Data in ug/Kg | | | | | | | | | | | | | | |
| Field ID | Matrix | Collection Date | 130 U | 100 U | 97 U | 90 U | 100 U | 100 U | 97 U | 200 U | 140 U | 100 U | 140 U | 77 U& |
| S-A1-7-3 | SOIL | 07/19/2002 | 130 U | 100 U | 97 U | 90 U | 100 U | 100 U | 97 U | 200 U | 140 U | 100 U | 140 U | 77 U& |
| S-A1-23-7 | SOIL | 07/19/2002 | 120 U | 96 U | 90 U | 84 U | 96 U | 96 U | 90 U | 190 U | 130 U | 96 U | 130 U | 72 U& |
| S-NA-9-2 | SOIL | 07/19/2002 | 120 U | 100 U | 94 U | 87 U | 100 U | 100 U | 94 U | 190 U | 130 U | 100 U | 130 U | 75 U& |
| S-NA-92D | SOIL | 07/19/2002 | 130 U | 100 U | 95 U | 88 U | 100 U | 100 U | 95 U | 200 U | 130 U | 100 U | 130 U | 76 U& |
| S-MA-8-2 | SOIL | 07/19/2002 | 150 U | 120 U | 120 U | 110 U | 120 U | 120 U | 120 U | 240 U | 160 U | 120 U | 160 U | 93 U& |
| S-WA-8-2 | SOIL | 07/19/2002 | 130 U | 110 U | 99 U | 93 U | 110 U | 110 U | 99 U | 210 U | 140 U | 110 U | 140 U | 79 U& |
| MB1824233 | SOIL | 07/19/2002 | 100 U | 80 U | 75 U | 70 U | 80 U | 80 U | 75 U | 160 U | 110 U | 80 U | 110 U | 60 U& |
| A3-23-2 | SOIL | 07/19/2002 | 120 U | 96 U | 90 U | 84 U | 96 U | 96 U | 90 U | 190 UN | 130 UN | 96 UN | 130 U | 72 U&N |
| A3-20-2 | SOIL | 07/19/2002 | 120 U | 99 U | 92 U | 86 U | 99 U | 99 U | 92 U | 190 U | 130 U | 99 U | 130 U | 74 U& |
| A3-25-2 | SOIL | 07/19/2002 | 120 U | 99 U | 92 U | 86 U | 99 U | 99 U | 92 U | 190 U | 130 U | 99 U | 130 U | 74 U& |
| A2-19-4 | SOIL | 07/19/2002 | 120 U | 99 U | 93 U | 87 U | 99 U | 99 U | 93 U | 190 U | 130 U | 99 U | 130 U | 75 U& |
| A2-7-3 | SOIL | 07/19/2002 | 130 U | 100 U | 98 U | 91 U | 100 U | 100 U | 98 U | 200 U | 140 U | 100 U | 140 U | 78 U& |
| A2-15-3 | SOIL | 07/19/2002 | 130 U | 100 U | 97 U | 90 U | 100 U | 100 U | 97 U | 200 U | 140 U | 100 U | 140 U | 77 U& |
| A4-22-2 | SOIL | 07/19/2002 | 130 U | 100 U | 96 U | 90 U | 100 U | 100 U | 96 U | 200 U | 130 U | 100 U | 130 U | 77 U& |
| A4-15-2 | SOIL | 07/19/2002 | 130 U | 100 U | 94 U | 88 U | 100 U | 100 U | 94 U | 190 U | 130 U | 100 U | 130 U | 75 U& |
| A4-15-2D | SOIL | 07/19/2002 | 130 U | 100 U | 96 U | 90 U | 100 U | 100 U | 96 U | 200 U | 130 U | 100 U | 130 U | 77 U& |

Exceeds Screening Level for Soil -> GW pathway

Exceeds Screening Level for ingestion / inhalation

Detection Limit above Screening Level

U: indicates undetected at concentration listed

J: Estimated Value

R: Result is rejected and unusable

C: Elevated detection limit due to matrix effect

&: Lab control spike recovery not within control limits

*: Duplicate analyses not within control limits

N: Spiked sample not within control limits

Table IV-2
Soil Sample Results
Semivolatile Organic Compounds
Eagle Zinc Company Site, Hillsboro, IL

| Parameter | Dibenzofuran | Diethyl-phthalate | Di-methyl-phthalate | Fluoran-thene | Fluorene | Hexa-chloro-benzene | Hexa-chloro-butadiene | Hexa-chloro-cyclopenta-diene | Hexa-chloro-ethane | Indeno-(1,2,3-cd)-pyrene | Isophorone | N-Nitroso-di-n-propylamine |
|---|--------------|-------------------|---------------------|---------------|------------|---------------------|-----------------------|------------------------------|--------------------|--------------------------|------------|----------------------------|
| Screening Levels ug/kg | | | | | | | | | | | | |
| Ingestion/I-Inhalation Industrial/ Commercial | -- | 2,000,000 | -- | 82,000,000 | 82,000,000 | 1,800 | -- | 1,100 | 2,000,000 | 8,000 | 4,600,000 | 800 |
| Soil -> GW | -- | 470,000 | -- | 4,300,000 | 560,000 | 2,000 | -- | 400,000 | 500 | 14,000 | 8,000 | 0.05 |
| Eagle Zinc Company Site Data in ug/Kg | | | | | | | | | | | | |
| Field ID | Matrix | Collection Date | | | | | | | | | | |
| S-A1-7-3 | SOIL | 07/19/2002 | 130 U | 130 U | 120 U | 150 U | 130 U | 65 U | 120 U | 77 U& | 110 U | 97 U |
| S-A1-23-7 | SOIL | 07/19/2002 | 120 U | 120 U | 110 U | 140 U | 120 U | 60 U | 110 U | 72 U& | 100 U | 90 U |
| S-NA-9-2 | SOIL | 07/19/2002 | 120 U | 120 U | 110 U | 140 U | 120 U | 62 U | 110 U | 75 U& | 110 U | 94 U |
| S-NA-92D | SOIL | 07/19/2002 | 130 U | 130 U | 110 U | 150 U | 130 U | 63 U | 110 U | 76 U& | 110 U | 95 U |
| S-MA-8-2 | SOIL | 07/19/2002 | 150 U | 150 U | 140 U | 180 U | 150 U | 77 U | 140 U | 93 U& | 130 U | 120 U |
| S-WA-8-2 | SOIL | 07/19/2002 | 130 U | 130 U | 120 U | 150 U | 130 U | 66 U | 120 U | 79 U& | 110 U | 99 U |
| MB1824233 | SOIL | 07/19/2002 | 100 U | 100 U | 90 U | 110 U | 100 U | 50 U | 90 U | 60 U& | 85 U | 75 U |
| A3-23-2 | SOIL | 07/19/2002 | 120 U | 120 U | 110 U | 140 U | 120 U | 60 U | 110 UN | 72 U&N | 100 UN | 90 U |
| A3-20-2 | SOIL | 07/19/2002 | 120 U | 120 U | 110 U | 140 U | 120 U | 62 U | 110 U | 74 U& | 100 U | 92 U |
| A3-25-2 | SOIL | 07/19/2002 | 120 U | 120 U | 110 U | 140 U | 120 U | 62 U | 110 U | 74 U& | 100 U | 92 U |
| A2-19-4 | SOIL | 07/19/2002 | 120 U | 120 U | 110 U | 140 U | 120 U | 62 U | 110 U | 75 U& | 110 U | 93 U |
| A2-7-3 | SOIL | 07/19/2002 | 130 U | 130 U | 120 U | 150 U | 130 U | 65 U | 120 U | 78 U& | 110 U | 98 U |
| A2-15-3 | SOIL | 07/19/2002 | 130 U | 130 U | 120 U | 150 U | 130 U | 64 U | 120 U | 77 U& | 110 U | 97 U |
| A4-22-2 | SOIL | 07/19/2002 | 130 U | 130 U | 120 U | 150 U | 130 U | 64 U | 120 U | 77 U& | 110 U | 96 U |
| A4-15-2 | SOIL | 07/19/2002 | 130 U | 130 U | 110 U | 140 U | 130 U | 63 U | 110 U | 75 U& | 110 U | 94 U |
| A4-15-2D | SOIL | 07/19/2002 | 130 U | 130 U | 120 U | 150 U | 130 U | 64 U | 120 U | 77 U& | 110 U | 96 U |
| | | | | | | | | | | | | |

Exceeds Screening Level for Soil -> GW pathway

Exceeds Screening Level for ingestion / inhalation

Detection Limit above Screening Level

U: indicates undetected at concentration listed

J: Estimated Value

R: Result is rejected and unusable

C: Elevated detection limit due to matrix effect

&: Lab control spike recovery not within control limits

*: Duplicate analyses not within control limits

N: Spiked sample not within control limits

Table IV-2
Soil Sample Results
Semivolatile Organic Compounds
Eagle Zinc Company Site, Hillsboro, IL

| Parameter | N-Nitrosodiphenylamine | Naphthalene | Nitrobenzene | Penta-chlorophenol | Phenanthrene | Phenol | Pyrene |
|--|------------------------|-----------------|--------------|--------------------|--------------|-------------|------------|
| Screening Levels ug/kg | | | | | | | |
| Ingestion/-Inhalation Industrial/ Commercial | 1,200,000 | 1,800 | 9,400 | -- | -- | 120,000,000 | 61,000,000 |
| Soil -> GW | 1,000 | 12,000 | 100 | -- | -- | 100,000 | 4,200,000 |
| Eagle Zinc Company Site Data in ug/Kg | | | | | | | |
| Field ID | Matrix | Collection Date | | | | | |
| S-A1-7-3 | SOIL | 07/19/2002 | 110 U | 110 U | 110 U | 140 U | 84 U |
| S-A1-23-7 | SOIL | 07/19/2002 | 100 U | 100 U | 100 U | 130 U | 78 U |
| S-NA-9-2 | SOIL | 07/19/2002 | 110 U | 110 U | 110 U | 130 U | 81 U |
| S-NA-92D | SOIL | 07/19/2002 | 110 U | 110 U | 110 U | 130 U | 82 U |
| S-MA-8-2 | SOIL | 07/19/2002 | 130 U | 130 U | 130 U | 160 U | 100 U |
| S-WA-8-2 | SOIL | 07/19/2002 | 110 U | 110 U | 110 U | 140 U | 86 U |
| MB1824233 | SOIL | 07/19/2002 | 85 U | 85 U | 85 U | 110 U | 65 U |
| A3-23-2 | SOIL | 07/19/2002 | 100 U | 100 U | 100 U | 130 U | 78 U |
| A3-20-2 | SOIL | 07/19/2002 | 100 U | 100 U | 100 U | 130 U | 80 U |
| A3-25-2 | SOIL | 07/19/2002 | 100 U | 100 U | 100 U | 130 U | 80 U |
| A2-19-4 | SOIL | 07/19/2002 | 110 U | 110 U | 110 U | 130 U | 81 U |
| A2-7-3 | SOIL | 07/19/2002 | 110 U | 110 U | 110 U | 140 U | 85 U |
| A2-15-3 | SOIL | 07/19/2002 | 110 U | 110 U | 110 U | 140 U | 84 U |
| A4-22-2 | SOIL | 07/19/2002 | 110 U | 110 U | 110 U | 130 U | 83 U |
| A4-15-2 | SOIL | 07/19/2002 | 110 U | 110 U | 110 U | 130 U | 81 U |
| A4-15-2D | SOIL | 07/19/2002 | 110 U | 110 U | 110 U | 130 U | 83 U |
| | | | | | | | 77 U |
| | | | | | | | 150 U |

Exceeds Screening Level for Soil -> GW pathway

Exceeds Screening Level for ingestion / inhalation

Detection Limit above Screening Level

U: indicates undetected at concentration listed

J: Estimated Value

R: Result is rejected and unusable

C: Elevated detection limit due to matrix effect

&: Lab control spike recovery not within control limits

*: Duplicate analyses not within control limits

N: Spiked sample not within control limits

Table IV-3
Soil Sample Results
PCBs
Eagle Zinc Company Site, Hillsboro, IL

| Parameter | Aroclor 1016 | Aroclor 1221 | Aroclor 1232 | Aroclor 1242 | Aroclor 1248 | Aroclor 1254 | Aroclor 1260 |
|---|--------------|-----------------|--------------|--------------|--------------|--------------|--------------|
| Screening Levels ug/kg | | | | | | | |
| Ingestion/ Inhalation Industrial/ Commercial | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
| Soil -> GW | -- | -- | -- | -- | -- | -- | -- |
| Eagle Zinc Company Site Data (ug/kg) | | | | | | | |
| Field ID | Matrix | Collection Date | | | | | |
| S-A1-7-3 | SOIL | 07/19/2002 | 17 U |
| S-A1-23-7 | SOIL | 07/19/2002 | 16 U |
| S-NA-9-2 | SOIL | 07/19/2002 | 16 U |
| S-NA-92D | SOIL | 07/19/2002 | 16 U |
| S-MA-8-2 | SOIL | 07/19/2002 | 20 U |
| S-WA-8-2 | SOIL | 07/19/2002 | 17 U |
| A3-23-2 | SOIL | 07/19/2002 | 16 U* | 16 U | 16 U | 16 U | 16 U |
| A3-20-2 | SOIL | 07/19/2002 | 16 U |
| A3-25-2 | SOIL | 07/19/2002 | 16 U |
| A2-19-4 | SOIL | 07/19/2002 | 16 U |
| A2-7-3 | SOIL | 07/19/2002 | 17 U |
| A2-15-3 | SOIL | 07/19/2002 | 17 U |
| A4-22-2 | SOIL | 07/19/2002 | 17 U |
| A4-15-2 | SOIL | 07/19/2002 | 16 U |
| A4-15-2D | SOIL | 07/19/2002 | 17 U |

Exceeds Screening Level for Soil -> GW pathway

Exceeds Screening Level for ingestion / inhalation

Detection Limit above Screening Level

U: indicates undetected at

J: Estimated Value

R: Result is rejected and unusable

C: Elevated detection limit due to matrix effect

&: Lab control spike recovery not within

*: Duplicate analyses not within control

N: Spiked sample not within control

Table IV-4
Soil Sample Results, Metals
Eagle Zinc Company Site, Hillsboro, IL

| Parameter | Aluminum | Antimony | Arsenic | Barium | Beryllium | Cadmium | Calcium | Chromium | Cobalt | Copper | Iron | Lead | Magnesium | Manganese | Mercury | Nickel | Potassium | Selenium | Silver | Sodium | | | | | | | | |
|---|----------|------------|---------|--------|-----------|---------|---------|----------|--------|--------|------|------|-----------|-----------|---------|--------|-----------|----------|--------|--------|------|------|-------|-------|-------|-------|-----|-----|
| Screening Levels mg/kg | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ingestion-Inhalation Industrial/ Commercial | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Soil -> GW | -- | 82 | 11.3 | 14,000 | 410 | 200 | -- | 420 | 12,000 | 8,200 | -- | 400 | -- | 8,700 | 61 | 4,100 | -- | 1,000 | 1,000 | -- | | | | | | | | |
| Eagle Zinc Company Site Data | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| (mg/kg) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Collection Date | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Field ID | Matrix | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| S-A1-6-9 | SOIL | 07/15/2002 | 8300 | 0.33 | U | 1.9 | 46 | 0.62 | 87 | 36000 | 12 | 7.1 | 9.1 | 10000 | 8.2 | 22000 | 400 | 0.0088 | 19 | 1800 | J | | | | | | | |
| S-A1-23-7 | SOIL | 07/16/2002 | 14000 | 0.41 | U | 6.1 | 50 | 0.87 | 56 | 19000 | 20 | 6.4 | 14 | 18000 | 8.9 | 12000 | 200 | 0.013 | 21 | 2300 | J | | | | | | | |
| S-A1-7-3 | SOIL | 07/15/2002 | 17000 | 0.71 | U | 4.3 | 100 | 1.1 | 44 | 1100 | 21 | 4.4 | 14 | 14000 | 22 | 2000 | 120 | 0.028 | 12 | 1400 | J | | | | | | | |
| S-A1-24-10 | SOIL | 07/16/2002 | 12000 | 0.77 | U | 5.1 | 66 | 0.79 | 6.1 | 1600 | 16 | 4.5 | 16 | 16000 | 19 | 1800 | 180 | 0.0051 | U | 11 | 1900 | J | | | | | | |
| S-A1-3-9 | SOIL | 07/15/2002 | 15000 | 0.34 | 3.7 | 66 | 0.78 | 5.6 | 2200 | 20 | 3.9 | 11 | 15000 | 9.1 | 3000 | 98 | 0.0047 | U | 16 | 1900 | J | | | | | | | |
| S-MA-6-4 | SOIL | 07/17/2002 | 26000 | 0.96 | 11 | 160 | 1.3 | 2 | 2500 | 30 | 4.4 | 23 | 29000 | 12 | 4300 | 240 | 0.03 | 21 | 2100 | J | 0.27 | U | 0.086 | U | 220 | | | |
| S-MA-9-2 | SOIL | 07/17/2002 | 24000 | 2 | U | 7.2 | 220 | 1.3 | 8.2 | 2100 | 33 | 12 | 21 | 27000 | 10 | 3900 | 550 | 0.022 | 23 | 2100 | J | 1.5 | U | 0.4 | U | 110 | | |
| S-NA-8-2 | SOIL | 07/17/2002 | 26000 | 0.66 | 4 | 65 | 1.1 | 0.12 | 3200 | 27 | 4 | 11 | 15000 | 12 | 2600 | 38 | 0.022 | 15 | 1300 | J | 0.33 | U | 0.078 | U | 270 | | | |
| S-NA-9-2D | SOIL | 07/17/2002 | 29000 | 0.81 | U | 5 | 280 | 1.1 | 0.55 | 2200 | 32 | 9 | 23 | 23000 | 13 | 4300 | 230 | 0.056 | 20 | 1700 | J | 0.62 | U | 0.16 | U | 130 | | |
| S-WA-8-2 | SOIL | 07/17/2002 | 9500 | 0.96 | 6.4 | 130 | 0.61 | 25 | 1600 | 12 | 7.7 | 18 | 47000 | 100 | 1300 | 580 | 0.038 | 8.6 | 860 | J | 0.31 | U | 0.094 | 120 | | | | |
| S-WA-9-2 | SOIL | 07/17/2002 | 14000 | 0.43 | U | 2.3 | 140 | 0.69 | 70 | 970 | 16 | 2.1 | 17 | 9100 | 48 | 1500 | 120 | 0.27 | 8.8 | 1200 | J | 0.3 | U | 0.087 | U | 26 | | |
| S-NA-9-2 | SOIL | 07/17/2002 | 26000 | 0.42 | 6.3 | 260 | 1.4 | 0.83 | 1700 | 30 | 6.4 | 24 | 26000 | 12 | 3800 | 170 | 0.043 | 21 | 1700 | J | 0.28 | U | 0.074 | U | 100 | | | |
| A2-19-6 | SOIL | 07/18/2002 | 23000 | 1.9 | 12 | 140 | 1.2 | 3.8 | 530 | 27 | 6.7 | 17 | 26000 | 18 | 3000 | 540 | 0.031 | 16 | 1600 | J | 0.35 | U | 0.42 | 28 | | | | |
| A2-23-3 | SOIL | 07/18/2002 | 23000 | 0.45 | U | 4.2 | 99 | 0.96 | 4.2 | 840 | 27 | 3.4 | 15 | 19000 | 11 | 2100 | 87 | 0.036 | 13 | 1300 | J | 0.32 | U | 0.09 | U | 30 | | |
| A2-24-3 | SOIL | 07/18/2002 | 21000 | 0.47 | 4.1 | 76 | 0.94 | 13 | 620 | 25 | 3.5 | 11 | 16000 | 7.4 | 1800 | 140 | 0.023 | 13 | 1200 | J | 0.3 | U | 0.071 | U | 20 | | | |
| A2-7-3 | SOIL | 07/18/2002 | 29000 | 0.9 | 12 | 210 | 1.5 | 1.6 | 1300 | 32 | 9.5 | 23 | 31000 | 23 | 3800 | 610 | 0.025 | 24 | 2400 | J | 0.33 | U | 0.089 | U | 81 | | | |
| A2-15-3 | SOIL | 07/18/2002 | 27000 | 0.46 | 3.9 | 110 | 1.1 | 6.8 | 1200 | 28 | 4 | 35 | 21000 | 23 | 2900 | 82 | 0.019 | 17 | 1800 | J | 0.31 | U | 0.084 | U | 26 | | | |
| A3-23-2 | SOIL | 07/19/2002 | 28000 | 0.72 | 4.8 | 120 | 1.1 | 7.9 | 1500 | 30 | 3.7 | 15 | 22000 | 10 | 2400 | 68 | 0.039 | 15 | 1700 | J | 0.29 | U | 0.079 | U | 34 | | | |
| A3-20-2 | SOIL | 07/19/2002 | 30000 | 2 | U | 8.3 | 140 | 1 | 6.3 | 1500 | 34 | 5.2 | 21 | 29000 | 11 | 4300 | 350 | 0.021 | 20 | 2200 | J | 1.4 | U | 0.4 | U | 71 | | |
| A3-25-2 | SOIL | 07/18/2002 | 23000 | 0.73 | U | 8.2 | 220 | 1.2 | 33 | 2500 | 29 | 4.7 | 19 | 25000 | 12 | 3700 | 410 | 0.043 | 21 | 2600 | J | 0.57 | U | 0.15 | U | 280 | | |
| S-A4-22-2 | SOIL | 07/19/2002 | 18000 | 0.62 | 8.4 | 170 | 0.85 | 1.3 | 1500 | 20 | 9.7 | 12 | 19000 | 21 | 2200 | 420 | J | 0.0051 | U | 12 | J | 1300 | J | 0.79 | U | 0.074 | U | 83 |
| S-A4-15-2 | SOIL | 07/19/2002 | 25000 | 0.83 | U | 11 | 490 | 2.5 | 1 | 3300 | 33 | 29 | 24 | 29000 | 20 | 4100 | 1900 | J | 0.039 | 93 | J | 1700 | J | 1.7 | U | 0.17 | U | 350 |
| S-A4-15-2D | SOIL | 07/19/2002 | 28000 | 0.93 | U | 13 | 290 | 2.8 | 0.51 | 3200 | 38 | 6.7 | 24 | 35000 | 14 | 4400 | 360 | J | 0.035 | 35 | J | 2100 | J | 1.8 | U | 0.19 | U | 390 |
| S-A4-3-2 | SOIL | 07/19/2002 | 33000 | 0.38 | U | 3.3 | 120 | 1.9 | 1.5 | 2800 | 35 | 5.3 | 17 | 16000 | 13 | 3300 | 100 | J | 0.031 | 19 | J | 1500 | J | 1.7 | 0.075 | U | 210 | |
| S-A4-17-2 | SOIL | 07/19/2002 | 18000 | 0.71 | 9.3 | 120 | 1.5 | 1.2 | 1300 | 24 | 4.7 | 11 | 24000 | 28 | 2000 | 920 | J | 0.019 | 13 | J | 1300 | J | 1.5 | U | 0.075 | U | 63 | |
| S-A3-22-6 | SOIL | 07/19/2002 | 18000 | 0.86 | 6.8 | 110 | 0.79 | 21 | 1100 | 24 | 6.4 | 12 | 18000 | 13 | 2700 | 230 | J | 0.0064 | 13 | J | 1500 | J | 0.28 | U | 0.079 | U | 93 | |
| S-A3-19-5 | SOIL | 07/19/2002 | 32000 | 0.73 | J | 13 | 190 | 1.2 | 19 | 3400 | 37 | 6.1 | 21 | 31000 | 16 | 4100 | 280 | J | 0.023 | 18 | J | 2400 | J | 0.64 | U | 0.086 | U | 120 |
| S-A4-1-6 | SOIL | 07/19/2002 | 20000 | 0.36 | U | 3.4 | 120 | 0.97 | 0.41 | 1900 | 27 | 17 | 11 | 12000 | 15 | 2000 | 1200 | J | 0.013 | 24 | J | 690 | J | 0.61 | U | 0.073 | U | 120 |

Exceeds Screening Level for Soil -> GW pathway

Exceeds Screening Level for ingestion / inhalation

Detection Limit above Screening Level

U: indicates undetected at concentration listed

J: Estimated Value

R: Result is rejected and unusable

C: Elevated detection limit due to matrix effect

&: Lab control spike recovery not within control

*: Duplicate analyses not within control limits

N: Spiked sample not within control limits

Soil Sample Results, Metals
Eagle Zinc Company Site, Hillsboro, IL.

| Parameter | | Solids, percent | Thallium | Vanadium | Zinc |
|---|--------|-----------------|----------|----------|--------|
| Screening Levels mg/kg | | | | | |
| Ingestion-Inhalation Industrial/ Commercial | | -- | 160 | 1,400 | 61,000 |
| Soil -> GW | | -- | 3 | 980 | 7,500 |
| Eagle Zinc Company Site Data (mg/kg) | | | | | |
| Field ID | Matrix | Collection Date | | | |
| S-A1-6-9 | SOIL | 07/15/2002 | U | 89.2 | 0.47 |
| S-A1-23-7 | SOIL | 07/16/2002 | | 83.7 | 0.9 |
| S-A1-7-3 | SOIL | 07/15/2002 | U | 83.3 | 0.7 U |
| S-A1-24-10 | SOIL | 07/16/2002 | J | 78.4 | 0.71 U |
| S-A1-3-9 | SOIL | 07/15/2002 | U | 85.6 | 0.41 |
| S-MA-6-4 | SOIL | 07/17/2002 | | 78.8 | 1.4 |
| S-MA-9-2 | SOIL | 07/17/2002 | J | 80.8 | 1.8 U |
| S-NA-8-2 | SOIL | 07/17/2002 | | 78.8 | 0.39 U |
| S-NA9-2D | SOIL | 07/17/2002 | J | 82.4 | 0.74 U |
| S-WA-8-2 | SOIL | 07/17/2002 | | 70.3 | 2.1 |
| S-WA-9-2 | SOIL | 07/17/2002 | U | 76.9 | 0.36 U |
| S-NA9-2 | SOIL | 07/17/2002 | | 79.7 | 0.89 |
| A2-19-6 | SOIL | 07/18/2002 | U | 65.3 | 0.88 |
| A2-23-3 | SOIL | 07/18/2002 | U | 72 | 0.73 |
| A2-24-3 | SOIL | 07/18/2002 | U | 80.1 | 0.6 |
| A2-7-3 | SOIL | 07/18/2002 | | 74.5 | 1.1 |
| A2-15-3 | SOIL | 07/18/2002 | U | 79.4 | 0.59 |
| A3-23-2 | SOIL | 07/19/2002 | U | 78.9 | 1.3 |
| A3-20-2 | SOIL | 07/19/2002 | J | 79.3 | 1.7 U |
| A3-25-2 | SOIL | 07/18/2002 | | 81.9 | 0.68 U |
| S-A4-22-2 | SOIL | 07/19/2002 | U | 78.5 | 1.1 |
| S-A4-15-2 | SOIL | 07/19/2002 | J | 77.1 | 2 UC |
| S-A4-15-2D | SOIL | 07/19/2002 | J | 67.1 | 2.1 U |
| S-A4-3-2 | SOIL | 07/19/2002 | | 77 | 1.7 U |
| S-A4-17-2 | SOIL | 07/19/2002 | U | 78.6 | 1.8 U |
| S-A3-22-6 | SOIL | 07/19/2002 | | 79.1 | 0.49 |
| S-A3-19-5 | SOIL | 07/19/2002 | | 77.1 | 1.1 |
| S-A4-1-6 | SOIL | 07/19/2002 | | 85.6 | 1.2 |

Exceeds Screening Level for Soil -> GW pathway

Exceeds Screening Level for ingestion / inhalation

Detection Limit above Screening Level

U: Indicates undetected at concentration listed

J: Estimated Value

R: Result is rejected and unusable

C: Elevated detection limit due to matrix effect

&: Lab control spike recovery not within control

^: Duplicate analyses not within control limits

N: Spiked sample not within control limits

Table IV-5
 Sediment Sample Results
 Volatile Organic Compounds
 Eagle Zinc Company Site, Hillsboro, IL

| Parameter | | 1,1,1-Trichloroethane | 1,1,2-Tetra-chloroethane | 1,1,2-Trichloroethane | 1,1,2-Trichloro-trifluoroethane | 1,1-Dichloroethane | 1,1-Dichloro-ethene | 1,2,4-Trichloro-benzene | 1,2-Dibromo-3-chloropropane | 1,2-Dibromo-ethane | 1,2-Dichlorobenzene | 1,2-Dichloroethane | 1,2-Dichloropropane | 1,3-Dichlorobenzene | |
|---|----------|-----------------------|--------------------------|-----------------------|---------------------------------|--------------------|---------------------|-------------------------|-----------------------------|--------------------|---------------------|--------------------|---------------------|---------------------|--------|
| Screening Levels ug/kg | | | | | | | | | | | | | | | |
| Ingestion/Inhalation Residential Soil -> GW | | 1,200,000 | -- | 310,000 | -- | 1,300,000 | 700,000 | 780,000 | 460 | 7.5 | 560,000 | 400 | 9,000 | -- | |
| | | 200 | -- | 20 | -- | 23,000 | 60 | 5,000 | 2 | 0.4 | 17,000 | 20 | 30 | -- | |
| Eagle Zinc Company Site Data (ug/kg) | | | | | | | | | | | | | | | |
| FieldID | Matrix | Collection Date | | | | | | | | | | | | | |
| SD-WD-9 | Sediment | 07/09/2002 | 1.8 U | 2 U | 1.6 U | 2.3 U | 1.9 U | 2.3 U | 2 U | 2.3 U | 1.7 U | 2.2 U | 2 U | 1.5 U | 1.6 U |
| SD-ED-12 | Sediment | 07/09/2002 | 1.2 U | 1.3 U | 1.1 U | 1.4 U | 1.2 U | 1.4 U | 1.3 U | 1.4 U | 1.1 U | 1.4 U | 1.3 U | 0.94 U | 1 U |
| SD-ED-13 | Sediment | 07/09/2002 | 0.97 U | 1 U | 0.88 U | 1.2 U | 1 U | 1.2 U | 1.1 U | 1.2 U | 0.89 U | 1.2 U | 1.1 U | 0.78 U | 0.85 U |
| SD-WD-9D | Sediment | 07/09/2002 | 1.9 U | 2 U | 1.7 U | 2.3 U | 2 U | 2.3 U | 2 U | 2.3 U | 1.7 U | 2.3 U | 2.1 U | 1.5 U | 1.6 U |
| MB1823955 | Sediment | 07/09/2002 | 0.81 U | 0.87 U | 0.73 U | 1 U | 0.86 U | 1 U | 0.88 U | 1 U | 0.74 U | 0.99 U | 0.89 U | 0.65 U | 0.71 U |
| SD-WD-7 | Sediment | 07/19/2002 | 1.4 U | 1.5 U | 1.3 U | 1.7 U | 1.5 U | 1.7 U | 1.5 U | 1.7 U | 1.3 U | 1.7 U | 1.5 U | 1.1 U | 1.2 U |

Exceeds Screening Level for Soil -> GW pathway (or detection limit greater than Screening Level)

Exceeds Screening Level for ingestion / inhalation

Detection Limit above Screening Level

U: indicates undetected at concentration listed

J: Estimated Value

R: Result is rejected and unusable

C: Elevated detection limit due to matrix effect

&: Lab control spike recovery not within control limits

*: Duplicate analyses not within control limits

N: Spiked sample not within control limits

Table IV-5
Sediment Sample Results
Volatile Organic Compounds
Eagle Zinc Company Site, Hillsboro, IL

| Parameter | 1,4-Dichlorobenzene | 2-Butanone | 2-Hexanone | 4-Methyl-2-pentanone | Acetone | Benzene | Bromodichloromethane | Bromoform | Bromomethane | Carbon disulfide | Carbon tetrachloride | Chlorobenzene | Chlorodibromomethane | | |
|---|---------------------|-----------------|------------|----------------------|-----------|---------|----------------------|-----------|--------------|------------------|----------------------|---------------|----------------------|--------|--------|
| Screening Levels ug/kg | | | | | | | | | | | | | | | |
| Ingestion/Inhalation | | | | | | | | | | | | | | | |
| Residential | 11,000,000 | -- | -- | -- | 7,800,000 | 800 | 10,000 | 53,000 | 10,000 | 720,000 | 300 | 130,000 | 1,300,000 | | |
| Soil -> GW | -- | -- | -- | -- | 16,000 | 30 | 600 | 800 | 200 | 32,000 | 70 | 1,000 | 400 | | |
| Eagle Zinc Company Site Data (ug/kg) | | | | | | | | | | | | | | | |
| FieldID | Matrix | Collection Date | | | | | | | | | | | | | |
| SD-WD-9 | Sediment | 07/09/2002 | 2.1 U | 8.6 J | 2.5 U | 1.6 U | 26 J | 2 U | 1.9 U | 1.7 U | 2.7 U | 2.7 U | 2.1 U | 2.2 U | 1.8 U |
| SD-ED-12 | Sediment | 07/09/2002 | 1.4 U | 1.9 R | 1.6 U | 1 U | 3.9 R | 1.3 U | 1.2 U | 1.1 U | 1.7 U | 1.7 U | 1.4 U | 1.4 U | 1.1 U |
| SD-ED-13 | Sediment | 07/09/2002 | 1.1 U | 1.6 R | 1.3 U | 0.85 U | 3.2 R | 1.1 U | 1 U | 0.93 U | 1.4 U | 1.4 U | 1.1 U | 1.2 U | 0.95 U |
| SD-WD-9D | Sediment | 07/09/2002 | 2.2 U | 20 J | 2.5 U | 1.6 U | 49 J | 2.1 U | 2 U | 1.8 U | 2.8 U | 2.8 U | 2.2 U | 2.3 U | 1.8 U |
| MB1823955 | Sediment | 07/09/2002 | 0.95 U | 1.3 R | 1.1 U | 0.71 U | 2.7 R | 0.91 U | 0.85 U | 0.77 U | 1.2 U | 1.2 U | 0.94 U | 0.99 U | 0.79 U |
| SD-WD-7 | Sediment | 07/19/2002 | 1.6 U | 2.2 R | 1.9 U | 1.2 U | 4.7 R | 1.6 U | 1.5 U | 1.3 U | 2.1 U | 2.1 U | 1.6 U | 1.7 U | 1.4 U |

Exceeds Screening Level for Soil -> GW pathway (or detection limit greater than Screening Level)

Exceeds Screening Level for ingestion / inhalation

Detection Limit above Screening Level

U: indicates undetected at concentration listed

J: Estimated Value

R: Result is rejected and unusable

C: Elevated detection limit due to matrix effect

&: Lab control spike recovery not within control limits

*: Duplicate analyses not within control limits

N: Spiked sample not within control limits

Table IV-5
 Sediment Sample Results
 Volatile Organic Compounds
 Eagle Zinc Company Site, Hillsboro, IL

| Parameter | | Chloro-ethane | Chloro-form | Chloro-methane | cis-1,2-Dichloroethene | cis-1,3-Dichloropropene | Cyclo-hexane | Dichlorodi-fluoromethane | Ethyl-benzene | Fluorotrichloro-methane | Isopropylbenzene | Methyl Acetate | Methyl-tert-butyl-ether | Methylcyclohexane | Methylene chloride | |
|---|----------|-----------------|-------------|----------------|------------------------|-------------------------|--------------|--------------------------|---------------|-------------------------|------------------|----------------|-------------------------|-------------------|--------------------|-------|
| Screening Levels ug/kg | | | | | | | | | | | | | | | | |
| Ingestion/Inhalation | | | | | | | | | | | | | | | | |
| Residential | -- | 300 | -- | 780,000 | 1,100 | -- | -- | 400,000 | -- | -- | -- | -- | -- | -- | 13,000 | |
| Soil -> GW | -- | 600 | -- | 400 | 4 | -- | -- | 13,000 | -- | -- | -- | -- | -- | -- | 20 | |
| Eagle Zinc Company Site Data (ug/kg) | | | | | | | | | | | | | | | | |
| FieldID | Matrix | Collection Date | | | | | | | | | | | | | | |
| SD-WD-9 | Sediment | 07/09/2002 | 1.9 U | 1.9 U | 1.8 U | 4.1 J | 1.6 U | 5.9 U | 1.6 U | 1.9 U | 2.5 U | 1.8 U | 6.3 U | 2.1 U | 6.1 U | 2 U |
| SD-ED-12 | Sediment | 07/09/2002 | 1.2 U | 1.2 U | 1.1 U | 1.4 U | 1 U | 3.8 U | 1 U | 1.2 U | 1.6 U | 1.1 U | 4 U | 1.3 U | 3.9 U | 1.3 U |
| SD-ED-13 | Sediment | 07/09/2002 | 1 U | 1 U | 0.94 U | 1.2 U | 0.84 U | 3.1 U | 0.85 U | 1 U | 1.3 U | 0.95 U | 3.4 U | 1.1 U | 3.2 U | 1.1 U |
| SD-WD-9D | Sediment | 07/09/2002 | 1.9 U | 2 U | 1.8 U | 86 J | 1.6 U | 6 U | 1.6 U | 2 U | 2.5 U | 1.8 U | 6.5 U | 2.1 U | 6.2 U | 2.1 U |
| MB1823955 | Sediment | 07/09/2002 | 0.84 U | 0.85 U | 0.78 U | 1 U | 0.7 U | 2.6 U | 0.71 U | 0.86 U | 1.1 U | 0.79 U | 2.8 U | 0.93 U | 2.7 U | 0.9 U |
| SD-WD-7 | Sediment | 07/19/2002 | 1.5 U | 1.5 U | 1.3 U | 1.7 U | 1.2 U | 4.5 U | 1.2 U | 1.5 U | 1.9 U | 1.4 U | 4.8 U | 1.6 U | 4.7 U | 1.6 U |

Exceeds Screening Level for Soil -> GW pathway (or detection limit greater than Screening Level)

Exceeds Screening Level for ingestion / inhalation

Detection Limit above Screening Level

U: indicates undetected at concentration listed

J: Estimated Value

R: Result is rejected and unusable

C: Elevated detection limit due to matrix effect

&: Lab control spike recovery not within control limits

*: Duplicate analyses not within control limits

N: Spiked sample not within control limits

Table IV-5
 Sediment Sample Results
 Volatile Organic Compounds
 Eagle Zinc Company Site, Hillsboro, IL

| Parameter | Styrene | Tetra-chloro-ethene | Toluene | trans-1,2-Dichloroethene | trans-1,3-Dichloropropene | Trichloroethene | Vinyl chloride | Xylene, -o | Xylenes, -m, -p |
|---|----------|---------------------|---------|--------------------------|---------------------------|-----------------|----------------|------------|-----------------|
| Screening Levels ug/kg | | | | | | | | | |
| Ingestion/Inhalation Residential | | | | | | | | | |
| Soil -> GW | 15,000 | 11,000 | 650,000 | 1,600,000 | 1,100 | 5,000 | 280 | 410,000 | 420,000 |
| | 4,000 | 60 | 12,000 | 700 | 4 | 60 | 10 | 190,000 | 200,000 |
| Eagle Zinc Company Site Data (ug/kg) | | | | | | | | | |
| FieldID | Matrix | Collection Date | | | | | | | |
| SD-WD-9 | Sediment | 07/09/2002 | 1.8 U | 2.5 U | 2.2 U | 5.6 J | 1.4 U | 3 J | 2.5 J |
| SD-ED-12 | Sediment | 07/09/2002 | 1.2 U | 1.6 U | 1.4 U | 1.2 U | 0.91 U | 1.4 U | 1.3 U |
| SD-ED-13 | Sediment | 07/09/2002 | 0.96 U | 1.3 U | 1.2 U | 1 U | 0.76 U | 1.2 U | 1.1 U |
| SD-WD-9D | Sediment | 07/09/2002 | 1.8 U | 2.5 U | 2.2 U | 20 J | 1.5 U | 4.5 J | 13 J |
| MB1823955 | Sediment | 07/09/2002 | 0.8 U | 1.1 U | 0.97 U | 0.83 U | 0.63 U | 1 U | 0.89 U |
| SD-WD-7 | Sediment | 07/19/2002 | 1.4 U | 1.9 U | 1.7 U | 1.4 U | 1.1 U | 1.7 U | 1.5 U |
| | | | | | | | | | |

Exceeds Screening Level for Soil -> GW pathway (or detection limit greater than Screening Level)

Exceeds Screening Level for ingestion / inhalation

Detection Limit above Screening Level

U: indicates undetected at concentration listed

J: Estimated Value

R: Result is rejected and unusable

C: Elevated detection limit due to matrix effect

&: Lab control spike recovery not within control limits

*: Duplicate analyses not within control limits

N: Spiked sample not within control limits

Table IV-6
Sediment Sample Results
Semivolatile Organic Compounds
Eagle Zinc Company Site, Hillsboro, IL

| Parameter | 1,2,4-Trichlorobenzene | 1,2-Dichlorobenzene | 1,3-Dichlorobenzene | 1,4-Dichlorobenzene | 2,2'-oxy-bis-(1-Chloropropane) | 2,4,5-Trichlorophenol | 2,4,6-Trichlorophenol | 2,4-Dichlorophenol | 2,4-Dimethylphenol | 2,4-Dinitrophenol | 2,4-Dinitrotoluene | 2,6-Dinitrotoluene | 2-Chloronaphthalene |
|---|------------------------|---------------------|---------------------|---------------------|--------------------------------|-----------------------|-----------------------|--------------------|--------------------|-------------------|--------------------|--------------------|---------------------|
| Screening Level ug/kg | | | | | | | | | | | | | |
| Ingestion/Inhalation Residential | | | | | | | | | | | | | |
| Soil -> GW | | | | | | | | | | | | | |
| | 780,000 | 560,000 | -- | 11,000,000 | -- | -- | -- | -- | 1,600,000 | -- | 900 | 900 | -- |
| | 5,000 | 17,000 | -- | 2,000 | -- | -- | -- | -- | 9,000 | -- | 0.8 | 0.7 | -- |
| Eagle Zinc Company Site Data (ug/kg) | | | | | | | | | | | | | |
| FieldID | Matrix | CollectionDate | | | | | | | | | | | |
| SD-WD-07 | Sediment | 07/08/2002 | 150 U | 140 U | 150 U | 140 U | 110 U | 150 U | 98 U | 150 U | 210 U | 200 U | 220 U& |
| | | | | | | | | | | | | | 130 U |
| SD-WD-9 | Sediment | 07/09/2002 | 180 U | 170 U | 180 U | 170 U | 130 U | 180 U | 120 U | 180 U | 250 U | 240 U | 260 U& |
| | | | | | | | | | | | | | 160 U |
| SD-ED-12 | Sediment | 07/09/2002 | 120 U | 110 U | 120 U | 110 U | 83 U | 120 U | 77 U | 120 U | 170 U | 160 U | 170 U& |
| | | | | | | | | | | | | | 100 U |
| SD-ED-13 | Sediment | 07/09/2002 | 120 U | 110 U | 120 U | 110 U | 87 U | 120 U | 80 U | 120 U | 170 U | 170 U | 180 U& |
| | | | | | | | | | | | | | 110 U |
| SD-WD-9D | Sediment | 07/09/2002 | 170 U | 160 U | 170 U | 160 U | 130 U | 170 U | 120 U | 170 U | 250 U | 240 U | 260 U& |
| | | | | | | | | | | | | | 150 U |
| MB1823955 | Sediment | 07/09/2002 | 90 U | 85 U | 90 U | 85 U | 65 U | 90 U | 60 U | 90 U | 130 U | 130 U | 140 U |
| | | | | | | | | | | | | | 80 U |
| | | | | | | | | | | | | | 70 U |

Exceeds Screening Level for Soil -> GW pathway

Exceeds Screening Level for ingestion / inhalation

Detection Limit above Screening Level

U: indicates undetected at concentration

J: Estimated Value

R: Result is rejected and unusable

C: Elevated detection limit due to matrix

&: Lab control spike recovery not within control limits

*: Duplicate analyses not within control limits

N: Spiked sample not within control limits

Table IV-6
Sediment Sample Results
Semivolatile Organic Compounds
Eagle Zinc Company Site, Hillsboro, IL

| Parameter | 2-Chloro-phenol | 2-Methyl-naphthalene | 2-Methyl-phenol | 2-Nitro-aniline | 2-Nitro-phenol | 3,3-Dichlorobenzidine | 3-Nitro-aniline | 4,6-Dinitro-2-methyl-phenol | 4-Bromo-phenyl phenyl ether | 4-Chloro-3-methyl-phenol | 4-Chlorophenyl phenyl ether | 4-Chlorophenyl phenyl ether | 4-Methyl-phenol |
|---|-----------------|----------------------|-----------------|-----------------|----------------|-----------------------|-----------------|-----------------------------|-----------------------------|--------------------------|-----------------------------|-----------------------------|-----------------|
| Screening Level ug/kg | | | | | | | | | | | | | |
| Ingestion/Inhalation | | | | | | | | | | | | | |
| Residential | | | | | | | | | | | | | |
| Soil -> GW | -- | -- | 3,900,000 | -- | -- | 1,000 | -- | -- | -- | -- | -- | -- | -- |
| Eagle Zinc Company Site Data (ug/kg) | | | | | | | | | | | | | |
| FieldID | Matrix | CollectionDate | | | | | | | | | | | |
| SD-WD-07 | Sediment | 07/08/2002 | 130 U | 130 U | 150 U | 210 U | 120 U | 210 U& | 81 U | 170 U | 98 U | 170 U | 98 U& |
| | | | | | | | | | | | | | 150 U |
| SD-WD-9 | Sediment | 07/09/2002 | 160 U | 160 U | 180 U | 250 U | 150 U | 250 U& | 97 U | 200 U | 120 U | 200 U | 120 U& |
| | | | | | | | | | | | | | 180 U |
| SD-ED-12 | Sediment | 07/09/2002 | 100 U | 100 U | 120 U | 170 U | 96 U | 170 U&N | 64 U | 130 U | 77 U | 130 U | 77 U&N |
| | | | | | | | | | | | | | 120 U |
| SD-ED-13 | Sediment | 07/09/2002 | 110 U | 110 U | 120 U | 170 U | 100 U | 170 U& | 67 U | 140 U | 80 U | 140 U | 80 U& |
| | | | | | | | | | | | | | 120 U |
| SD-WD-9D | Sediment | 07/09/2002 | 150 U | 150 U | 170 U | 250 U | 140 U | 250 U& | 97 U | 200 U | 120 U | 200 U | 120 U& |
| | | | | | | | | | | | | | 170 U |
| MB1823955 | Sediment | 07/09/2002 | 80 U | 80 U | 90 U | 130 U | 75 U | 130 U | 50 U | 110 U | 60 U | 110 U | 60 U |
| | | | | | | | | | | | | | 90 U |
| | | | | | | | | | | | | | 80 U |

Exceeds Screening Level for Soil -> GW pathway

Exceeds Screening Level for ingestion / inhalation

Detection Limit above Screening Level

U: indicates undetected at concentration

J: Estimated Value

R: Result is rejected and unusable

C: Elevated detection limit due to matrix

&: Lab control spike recovery not within control limits

*: Duplicate analyses not within control limits

N: Spiked sample not within control limits

Table IV-6
Sediment Sample Results
Semivolatile Organic Compounds
Eagle Zinc Company Site, Hillsboro, IL

| Parameter | 4-Nitro-aniline | 4-Nitro-phenol | Acena-phthene | Acena-phthylene | Acetopheno-ne | Antra-cene | Atra-zine | Benz-alde-hyde | Benzo(a)anthra-cene | Benzo(a)-pyrene | Benzo(b)fluor-anthene | Benzo(g,h,i)-perylene | Benzo-(k)-fluor-anthene | | |
|---|-----------------|----------------|---------------|-----------------|---------------|------------|-----------|----------------|---------------------|-----------------|-----------------------|-----------------------|-------------------------|-------|-------|
| Screening Level ug/kg | | | | | | | | | | | | | | | |
| Ingestion/Inhalation | | | | | | | | | | | | | | | |
| Residential | -- | -- | 4,700,000 | -- | -- | 23,000,000 | 2,700,000 | -- | 900 | 90 | 900 | -- | 9,000 | | |
| Soil -> GW | -- | -- | 570,000 | -- | --- | 12,000,000 | 66 | -- | 2,000 | 8,000 | 5,000 | -- | 49,000 | | |
| Eagle Zinc Company Site Data (ug/kg) | | | | | | | | | | | | | | | |
| FieldID | Matrix | CollectionDate | | | | | | | | | | | | | |
| SD-WD-07 | Sediment | 07/08/2002 | 390 U | 380 U | 140 U | 120 U | 150 U | 110 U | 98 U | 110 U | 150 U | 120 U | 200 U | 120 U | 160 U |
| SD-WD-9 | Sediment | 07/09/2002 | 470 U | 460 U | 170 U | 150 U | 180 U | 130 U | 120 U | 140 U | 180 U | 150 U | 230 U | 150 U | 190 U |
| SD-ED-12 | Sediment | 07/09/2002 | 310 U | 300 U | 110 U | 96 U | 120 U | 83 U | 77 U | 90 U | 120 U | 96 U | 150 U | 96 U | 130 U |
| SD-ED-13 | Sediment | 07/09/2002 | 320 U | 320 U | 110 U | 100 U | 120 U | 87 U | 80 U | 94 U | 120 U | 100 U | 160 U | 100 U | 130 U |
| SD-WD-9D | Sediment | 07/09/2002 | 460 U | 450 U | 160 U | 140 U | 170 U | 130 U | 120 U | 140 U | 170 U | 140 U | 230 U | 140 U | 190 U |
| MB1823955 | Sediment | 07/09/2002 | 240 U | 240 U | 85 U | 75 U | 90 U | 65 U | 60 U | 70 U | 90 U | 75 U | 120 U | 75 U | 100 U |

Exceeds Screening Level for Soil -> GW pathway

Exceeds Screening Level for ingestion / inhalation

Detection Limit above Screening Level

U: indicates undetected at concentration

J: Estimated Value

R: Result is rejected and unusable

C: Elevated detection limit due to matrix

&: Lab control spike recovery not within control limits

*: Duplicate analyses not within control limits

N: Spiked sample not within control limits

Table IV-6
Sediment Sample Results
Semivolatile Organic Compounds
Eagle Zinc Company Site, Hillsboro, IL

| Parameter | Biphenyl | bis-(2-Chloroethoxy)-methane | bis-(2-Chloroethyl)-ether | bis(2-Ethylhexyl)phthalate | Butylbenzyl-phthalate | Caprolactam | Carbazole | Chrysene | Di-n-butyl-phthalate | Di-n-octyl-phthalate | Dibenzo-(a,h)anthracene | Dibenzofuran | Diethyl-phthalate |
|--------------------------------------|----------|------------------------------|---------------------------|----------------------------|-----------------------|-------------|-----------|----------|----------------------|----------------------|-------------------------|--------------|-------------------|
| Screening Level ug/kg | | | | | | | | | | | | | |
| Ingestion/Inhalation | | | | | | | | | | | | | |
| Residential | | | | | | | | | | | | | |
| Soil -> GW | -- | -- | 200 | 46,000 | 930,000 | -- | 32,000 | 88,000 | 2,300,000 | -- | 90 | -- | 2,000,000 |
| SD-WD-07 | Sediment | 07/08/2002 | 130 U | 120 U | 110 U | 130 U | 130 U | 120 U | 250 U | 170 U | 130 U | 170 U | 98 U& |
| SD-WD-9 | Sediment | 07/09/2002 | 160 U | 150 U | 140 U | 160 U | 160 U | 150 U | 300 U | 200 U | 160 U | 200 U | 120 U& |
| SD-ED-12 | Sediment | 07/09/2002 | 100 U | 96 U | 90 U | 100 U | 100 U | 96 U | 200 U | 130 U | 100 U | 130 U | 77 U&N |
| SD-ED-13 | Sediment | 07/09/2002 | 110 U | 100 U | 94 U | 110 U | 110 U | 100 U | 210 U | 140 U | 110 U | 140 U | 80 U& |
| SD-WD-9D | Sediment | 07/09/2002 | 150 U | 140 U | 140 U | 150 U | 150 U | 140 U | 300 U | 200 U | 150 U | 200 U | 120 U& |
| MB1823955 | Sediment | 07/09/2002 | 80 U | 75 U | 70 U | 80 U | 80 U | 75 U | 160 U | 110 U | 80 U | 110 U | 60 U |
| Eagle Zinc Company Site Data (ug/kg) | | | | | | | | | | | | | |
| FieldID | Matrix | CollectionDate | | | | | | | | | | | |
| SD-WD-07 | Sediment | 07/08/2002 | 130 U | 120 U | 110 U | 130 U | 130 U | 120 U | 250 U | 170 U | 130 U | 170 U | 98 U& |
| SD-WD-9 | Sediment | 07/09/2002 | 160 U | 150 U | 140 U | 160 U | 160 U | 150 U | 300 U | 200 U | 160 U | 200 U | 120 U& |
| SD-ED-12 | Sediment | 07/09/2002 | 100 U | 96 U | 90 U | 100 U | 100 U | 96 U | 200 U | 130 U | 100 U | 130 U | 77 U&N |
| SD-ED-13 | Sediment | 07/09/2002 | 110 U | 100 U | 94 U | 110 U | 110 U | 100 U | 210 U | 140 U | 110 U | 140 U | 80 U& |
| SD-WD-9D | Sediment | 07/09/2002 | 150 U | 140 U | 140 U | 150 U | 150 U | 140 U | 300 U | 200 U | 150 U | 200 U | 120 U& |
| MB1823955 | Sediment | 07/09/2002 | 80 U | 75 U | 70 U | 80 U | 80 U | 75 U | 160 U | 110 U | 80 U | 110 U | 60 U |

Exceeds Screening Level for Soil -> GW pathway

Exceeds Screening Level for ingestion / inhalation

Detection Limit above Screening Level

U: indicates undetected at concentration

J: Estimated Value

R: Result is rejected and unusable

C: Elevated detection limit due to matrix

&: Lab control spike recovery not within control limits

*: Duplicate analyses not within control limits

N: Spiked sample not within control limits

Table IV-6
Sediment Sample Results
Semivolatile Organic Compounds
Eagle Zinc Company Site, Hillsboro, IL

| Parameter | Di-methyl-phthalate | Fluoran-thene | Fluorene | Hexa-chloro-benzene | Hexa-chloro-butadiene | Hexa-chloro-cyclopenta-diene | Hexa-chloro-ethane | Indeno-(1,2,3-cd)-pyrene | Isophorone | N-Nitroso-di-n-propylamine | N-Nitrosodiphenylamine | Naphthalene |
|---|---------------------|----------------|-----------|---------------------|-----------------------|------------------------------|--------------------|--------------------------|------------|----------------------------|------------------------|-------------|
| Screening Level ug/kg | | | | | | | | | | | | |
| Ingestion/Inhalation | | | | | | | | | | | | |
| Residential | -- | 3,100,000 | 3,100,000 | 400 | -- | 10,000 | 78,000 | 900 | 4,600,000 | 90 | 130,000 | 170,000 |
| Soil -> GW | -- | 4,300,000 | 560,000 | 2,000 | -- | 400,000 | 500 | 14,000 | 8,000 | 0.05 | 1,000 | 12,000 |
| Eagle Zinc Company Site Data (ug/kg) | | | | | | | | | | | | |
| FieldID | Matrix | CollectionDate | | | | | | | | | | |
| SD-WD-07 | Sediment | 07/08/2002 | 150 U | 190 U | 160 U | 81 U | 150 U | 98 U& | 140 U | 120 U | 98 U& | 110 U |
| | | | | | | | | | | | | 140 U |
| SD-WD-9 | Sediment | 07/09/2002 | 180 U | 220 U | 190 U | 97 U | 180 U | 120 U& | 170 U | 150 U | 120 U& | 130 U |
| | | | | | | | | | | | | 170 U |
| SD-ED-12 | Sediment | 07/09/2002 | 120 U | 150 U | 130 U | 64 U | 120 U | 77 U&N | 110 U | 96 U | 77 U&N | 83 U |
| | | | | | | | | | | | | 110 U |
| SD-ED-13 | Sediment | 07/09/2002 | 120 U | 150 U | 130 U | 67 U | 120 U | 80 U& | 110 U | 100 U | 80 U& | 87 U |
| | | | | | | | | | | | | 110 U |
| SD-WD-9D | Sediment | 07/09/2002 | 170 U | 220 U | 190 U | 97 U | 170 U | 120 U& | 160 U | 140 U | 120 U& | 130 U |
| | | | | | | | | | | | | 160 U |
| MB1823955 | Sediment | 07/09/2002 | 90 U | 110 U | 100 U | 50 U | 90 U | 60 U | 85 U | 75 U | 60 U | 65 U |
| | | | | | | | | | | | | 85 U |
| | | | | | | | | | | | | 85 U |

Exceeds Screening Level for Soil -> GW pathway

Exceeds Screening Level for ingestion / inhalation

Detection Limit above Screening Level

U: indicates undetected at concentration

J: Estimated Value

R: Result is rejected and unusable

C: Elevated detection limit due to matrix

&: Lab control spike recovery not within control limits

*: Duplicate analyses not within control limits

N: Spiked sample not within control limits

Table IV-7
Sediment Sample Results
PCBs
Eagle Zinc Company Site, Hillsboro, IL

| Parameter | | | Aroclor 1016 | Aroclor 1221 | Aroclor 1232 | Aroclor 1242 | Aroclor 1248 | Aroclor 1254 | Aroclor 1260 | |
|---|----------|-----------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---|
| Screening Level) ug/kg | | | | | | | | | | |
| Ingestion/Inhalation | | | | | | | | | | |
| Residential | | | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | |
| Soil -> GW | | | | | | | | | | |
| Eagle Zinc Company Site Data (ug/kg) | | | | | | | | | | |
| Field ID | Matrix | Collection Date | | | | | | | | |
| SD-WD-07 | Sediment | 07/08/2002 | 21 | U* | 21 | U | 21 | U | 21 | U |
| SD-WD-9 | Sediment | 07/09/2002 | 25 | U* | 25 | U | 25 | U | 25 | U |
| SD-ED-12 | Sediment | 07/09/2002 | 17 | U* | 17 | U | 17 | U | 17 | U |
| SD-ED-13 | Sediment | 07/09/2002 | 17 | U* | 17 | U | 17 | U | 17 | U |
| SD-WD-9D | Sediment | 07/09/2002 | 25 | U* | 25 | U | 25 | U | 25 | U |

Exceeds Screening Level for Soil -> GW pathway (or detection limit greater than Screening Level)

Exceeds Screening Level for ingestion / inhalation

Detection Limit above Screening Level

U: indicates undetected at concentration listed

J: Estimated Value

R: Result is rejected and unusable

C: Elevated detection limit due to matrix effect

&: Lab control spike recovery not within control

*: Duplicate analyses not within control limits

N:Spiked sample not within control limits

Table IV-8
Sediment Sample Results
Metals
Eagle Zinc Company Site, Hillsboro, IL.

| Parameter | | Aluminum | Antimony | Arsenic | Barium | Beryllium | Cadmium | Calcium | Chromium | Cobalt | Copper | Iron | Lead | Magnesium | Manganese | |
|--|-------------|-----------------|----------|---------|--------|-----------|---------|---------|----------|--------|---------|------|-------|-----------|-----------|-----|
| <i>Screening Levels mg/kg</i> | | | | | | | | | | | | | | | | |
| Ingestion/Inhalation | Residential | -- | 31 | 11.3 | 5,500 | 160 | 78 | -- | 230 | 4,700 | 2,900 | -- | 400 | -- | 3,700 | |
| | Soil -> GW | -- | 5 | 29 | 1,700 | 140 | 11 | -- | -- | -- | 200,000 | -- | -- | -- | -- | |
| <i>Eagle Zinc Company Data (mg/kg)</i> | | | | | | | | | | | | | | | | |
| Field ID | Matrix | Collection Date | | | | | | | | | | | | | | |
| SD-WD-01 | Sediment | 07/08/2002 | 7700 | 0.52 | 3.4 J | 50 J | 0.36 J | 1.2 | 7200 | 8.1 J | 2.8 | 9.9 | 7300 | 26 | 1900 J | 230 |
| SD-WD-02 | Sediment | 07/08/2002 | 6200 | 0.45 U | 3.9 J | 53 J | 0.43 J | 1.6 | 14000 | 8.9 J | 4 | 15 | 9800 | 49 | 2400 J | 420 |
| SD-WD-03 | Sediment | 07/08/2002 | 2400 | 0.48 | 2.5 J | 51 J | 0.31 J | 0.96 | 8200 | 5.9 J | 1.9 | 27 | 6900 | 32 | 1700 J | 190 |
| SD-WD-04 | Sediment | 07/08/2002 | 2300 | 0.83 | 3.2 J | 30 J | 0.27 J | 0.83 | 10000 | 6.7 J | 3.4 | 5.7 | 6900 | 29 | 2700 J | 330 |
| SD-WD-06 | Sediment | 07/08/2002 | 4200 | 1.7 | 8 J | 67 J | 0.52 J | 23 | 3600 | 10 J | 4.1 | 51 | 20000 | 290 J | 1000 | 380 |
| SD-WD-05 | Sediment | 07/08/2002 | 2800 | 0.58 | 5.4 J | 65 J | 0.45 J | 0.48 | 18000 | 7.3 J | 3.5 | 9.6 | 11000 | 28 | 2100 J | 480 |
| SD-ED-16 | Sediment | 07/08/2002 | 6600 | 1.9 | 3.2 J | 63 J | 0.5 J | 8.9 | 4100 | 10 J | 6 | 53 | 8500 | 87 | 1800 J | 390 |
| SD-ED-14 | Sediment | 07/08/2002 | 9600 | 1.8 | 7.2 J | 71 J | 0.75 J | 3.7 | 15000 | 14 J | 12 | 18 | 19000 | 75 | 3200 J | 750 |
| SD-WD-10 | Sediment | 07/08/2002 | 12000 | 2.1 | 15 J | 86 J | 0.92 J | 1.4 | 5500 | 27 J | 6.1 | 30 | 16000 | 46 | 1800 J | 100 |
| SD-ED-15 | Sediment | 07/08/2002 | 3900 | 0.84 | 5.8 J | 44 J | 0.39 J | 2.3 | 6000 | 7.1 J | 6.6 | 4.8 | 11000 | 20 | 3500 J | 740 |
| SD-WD-07 | Sediment | 07/08/2002 | 6400 | 12 | 25 J | 190 J | 0.69 J | 96 | 2600 | 22 J | 6.1 | 320 | 45000 | 2700 | 1200 J | 110 |
| SD-WD-9 | Sediment | 07/09/2002 | 7500 | 2.1 | 7.9 J | 76 J | 0.65 J | 550 | 2400 | 17 J | 11 | 58 | 29000 | 220 | 1000 J | 230 |
| SD-WD-8 | Sediment | 07/09/2002 | 19000 | 2.8 | 7 J | 99 J | 1.1 J | 17 | 2900 | 26 J | 14 | 97 | 20000 | 450 | 2300 J | 360 |
| SD-ED-11 | Sediment | 07/09/2002 | 6000 | 0.42 | 2.1 J | 68 J | 0.42 J | 0.91 | 1900 | 11 J | 1.8 | 7.5 | 5100 | 14 | 740 J | 130 |
| SD-ED-12 | Sediment | 07/09/2002 | 6100 | 0.62 | 2.4 J | 82 J | 0.36 J | 2.4 | 1300 | 11 J | 1.2 | 8.9 | 5100 | 25 * | 760 J | 70 |
| SD-ED-13 | Sediment | 07/09/2002 | 4900 | 2.3 | 6.1 J | 59 J | 0.43 J | 13 | 23000 | 8.5 J | 7.3 | 52 | 15000 | 84 | 5400 J | 340 |
| SD-WD-9D | Sediment | 07/09/2002 | 7600 | 2.1 | 5.1 J | 67 J | 0.67 J | 550 | 2300 | 12 J | 9.3 | 65 | 19000 | 240 | 1000 J | 150 |

Exceeds Screening Level for Soil -> GW pathway

Exceeds Screening Level for ingestion / inhalation

Detection Limit above Screening Level

U: indicates undetected at concentration listed

J: Estimated Value

R: Result is rejected and unusable

C: Elevated detection limit due to matrix effect

&: Lab control spike recovery not within control limits

*: Duplicate analyses not within control limits

N: Spiked sample not within control limits

Table IV-8
Sediment Sample Results
Metals
Eagle Zinc Company Site, Hillsboro, IL

| Parameter | Mercury | Nickel | Potassium | Selenium | Silver | Sodium | Thallium | Vanadium | Zinc | | | |
|--|-------------|-----------------|-----------|----------|--------|---------|----------|----------|----------|----------|---------|---------|
| Screening Levels mg/kg | | | | | | | | | | | | |
| Ingestion/Inhalation | Residential | 10 | 1,600 | -- | 390 | 390 | -- | 6 | 550 | 23,000 | | |
| | Soil -> GW | 3.3 | 180 | -- | 5 | 13 | -- | 3 | 980 | 7,500 | | |
| Eagle Zinc Company Data (mg/kg) | | | | | | | | | | | | |
| Field ID | Matrix | Collection Date | | | | | | | | | | |
| SD-WD-01 | Sediment | 07/08/2002 | 0.065 | 6.7 A | 570 J | 0.67 UJ | 0.1 U | 88 UJA | 0.71 UJA | 11 J | 500 J | |
| SD-WD-02 | Sediment | 07/08/2002 | 0.06 | 8.9 A | 470 J | 0.55 UJ | 0.09 U | 67 UJA | 0.58 UJA | 12 J | 1400 J | |
| SD-WD-03 | Sediment | 07/08/2002 | 0.031 | 4.7 A | 300 J | 0.56 UJ | 0.091 U | 79 UJA | 0.59 UJA | 7.8 J | 400 J | |
| SD-WD-04 | Sediment | 07/08/2002 | 0.012 | 4.2 A | 270 J | 0.52 UJ | 0.089 | 61 UJA | 0.55 UJA | 9.5 J | 520 J | |
| SD-WD-06 | Sediment | 07/08/2002 | 0.9 | 12 | 400 J | 0.62 UJ | 0.25 J | 23 UJ | 0.65 UJA | 13 J | 10000 J | |
| SD-WD-05 | Sediment | 07/08/2002 | 0.0093 | 6.5 A | 320 J | 0.64 UJ | 0.1 U | 150 JA | 0.66 UJA | 11 J | 310 J | |
| SD-ED-16 | Sediment | 07/08/2002 | 0.15 | 17 | 620 J | 0.72 UJ | 0.46 | 26 UJ | 0.75 UJA | 15 J | 8400 J | |
| SD-ED-14 | Sediment | 07/08/2002 | 0.064 | 15 | 860 J | 0.53 UJ | 0.079 U | 86 UJA | 0.55 UJA | 27 J | 5100 J | |
| SD-WD-10 | Sediment | 07/08/2002 | 0.057 | 16 A | 1200 J | 1.1 UJ | 0.15 U | 96 UJA | 1.1 UJA | 26 J | 920 J | |
| SD-ED-15 | Sediment | 07/08/2002 | 0.0046 | U | 7.9 | 440 J | 0.44 UJ | 0.066 U | 40 UJA | 0.46 UJA | 16 J | 530 J |
| SD-WD-07 | Sediment | 07/08/2002 | 0.16 | 27 | 610 J | 1.4 J | 2.4 | 89 UJA | 0.62 UJA | 23 J | 23000 J | |
| SD-WD-9 | Sediment | 07/09/2002 | 1.3 | 29 | 690 J | 1.1 J | 0.37 | 28 UJ | 0.82 UJA | 34 J | 12000 J | |
| SD-WD-8 | Sediment | 07/09/2002 | 1.4 | 26 | 1400 J | 0.73 UJ | 0.99 | 27 UJ | 0.77 UJA | 30 J | 7600 J | |
| SD-ED-11 | Sediment | 07/09/2002 | 0.013 | J | 5 A | 720 J | 0.49 UJ | 0.074 U | 69 UJA | 0.51 UJA | 14 J | 460 J |
| SD-ED-12 | Sediment | 07/09/2002 | 0.019 | | 4.6 A | 660 J | 0.53 UJ | 0.079 U | 92 UJA | 0.56 UJA | 13 J | 830 J* |
| SD-ED-13 | Sediment | 07/09/2002 | 0.024 | | 15 | 530 J | 0.5 UJ | 0.39 | 21 UJA | 0.52 UJA | 16 J | 11000 J |
| SD-WD-9D | Sediment | 07/09/2002 | 1.7 | | 25 | 730 J | 1.1 J | 0.38 | 26 UJ | 0.75 UJA | 20 J | 9700 J |

Exceeds Screening Level for Soil -> GW pathway

Exceeds Screening Level for ingestion / inhalation

Detection Limit above Screening Level

U: indicates undetected at concentration listed

J: Estimated Value

R: Result is rejected and unusable

C: Elevated detection limit due to matrix effect

&: Lab control spike recovery not within control limits

*: Duplicate analyses not within control limits

N: Spiked sample not within control limits

Table IV-9
Residue Sample Results
Metals
Eagle Zinc Company Site, Hillsboro, IL

| | | Parameter | Arsenic - SPLP | Arsenic - TCLP | Barium - SPLP | Barium - TCLP | Cadmium - SPLP | Cadmium - TCLP | Chromium - SPLP | Chromium - TCLP | Lead - SPLP | Lead - TCLP |
|--|---------|-----------------|----------------|----------------|---------------|---------------|----------------|----------------|-----------------|-----------------|-------------|-------------|
| Eagle Zinc Company Site Data (mg/L) | | | | | | | | | | | | |
| FieldID | Matrix | Collection Date | | | | | | | | | | |
| R-RC0-5 | Residue | 07/09/2002 | 0.015 U | 0.2 U | 0.068 | 1 | 0.003 U | 0.14 | 0.003 U | 0.05 U | 0.01 U | 0.2 U |
| R-MP1-21 | Residue | 07/09/2002 | 0.015 U | 0.2 U | 0.059 | 0.21 | 0.076 | 0.21 | 0.003 U | 0.05 U | 0.62 | 83 |
| R-RR1-1 | Residue | 07/09/2002 | 0.015 U | 0.2 U | 0.11 | 0.44 | 0.0035 | 0.11 | 0.003 U | 0.05 U | 0.01 U | 0.35 |
| R-RR1-3 | Residue | 07/09/2002 | 0.015 U | 0.2 U | 0.089 | 0.39 | 0.045 | 0.47 | 0.003 U | 0.05 U | 0.01 U | 14 |
| R-RR1-2 | Residue | 07/09/2002 | 0.015 U | 0.2 U | 0.078 | 0.26 | 0.0043 | 0.088 | 0.003 U | 0.05 U | 0.01 U | 0.2 U |
| R-RR1-4 | Residue | 07/09/2002 | 0.015 U | 0.2 U | 0.024 | 0.66 | 0.003 U | 0.05 U | 0.003 UN | 0.05 U | 0.01 U | 0.2 U |
| R-RR1-4D | Residue | 07/09/2002 | 0.015 U | 0.2 U | 0.024 | 0.82 | 0.003 U | 0.05 U | 0.003 U | 0.05 U | 0.01 U | 0.2 U |
| R-RR0-12 | Residue | 07/10/2002 | 0.015 U | 0.2 U | 0.063 | 0.49 | 0.003 U | 0.05 U | 0.003 U | 0.05 U | 0.01 U | 0.2 U |
| R-NP-13 | Residue | 07/10/2002 | 0.015 U | 0.2 U | 0.019 | 0.38 | 0.003 U | 0.14 | 0.003 U | 0.05 U | 0.01 U | 0.2 U |
| R-NP-14 | Residue | 07/10/2002 | 0.015 U | 0.2 U | 0.035 | 0.37 | 0.017 | 0.35 | 0.003 U | 0.05 U | 0.01 U | 0.23 |
| R-RR2-11 | Residue | 07/11/2002 | 0.015 U | 0.2 U | 0.13 | 0.75 | 0.003 U | 0.076 | 0.003 U | 0.05 U | 0.01 U | 6 |
| R-NP-15 | Residue | 07/11/2002 | 0.015 U | 0.2 U | 0.069 | 0.51 | 0.003 U | 0.11 | 0.003 U | 0.05 U | 0.01 U | 0.2 U |
| R-CPH-6 | Residue | 07/11/2002 | 0.015 U | 0.2 U | 0.057 | 0.2 U | 0.003 U | 0.1 | 0.003 U | 0.05 U | 0.01 U | 0.33 |
| R-NP-16 | Residue | 07/11/2002 | 0.015 U | 0.2 U | 0.064 | 0.47 | 0.003 U | 0.074 | 0.003 U | 0.05 U | 0.01 U | 0.2 U |
| R-RC0-10 | Residue | 07/11/2002 | 0.015 U | 0.2 U | 0.12 | 0.75 | 0.003 U | 0.05 U | 0.003 U | 0.05 U | 0.01 U | 0.86 |
| R-CPH-9 | Residue | 07/11/2002 | 0.015 U | 0.2 U | 0.078 | 0.57 | 0.003 U | 0.05 U | 0.003 U | 0.05 U | 0.01 U | 0.2 U |

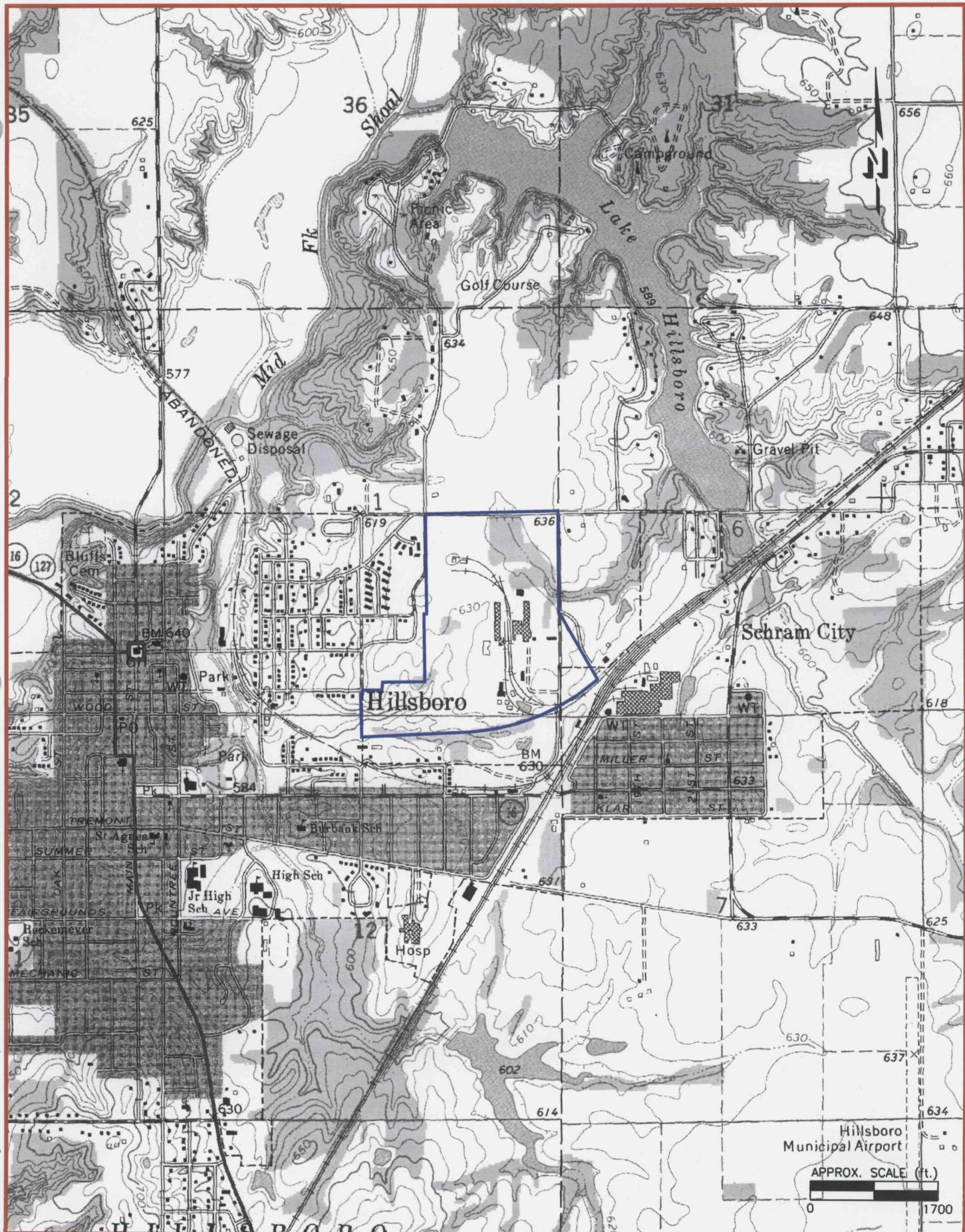
U: Indicated undetected at concentration listed

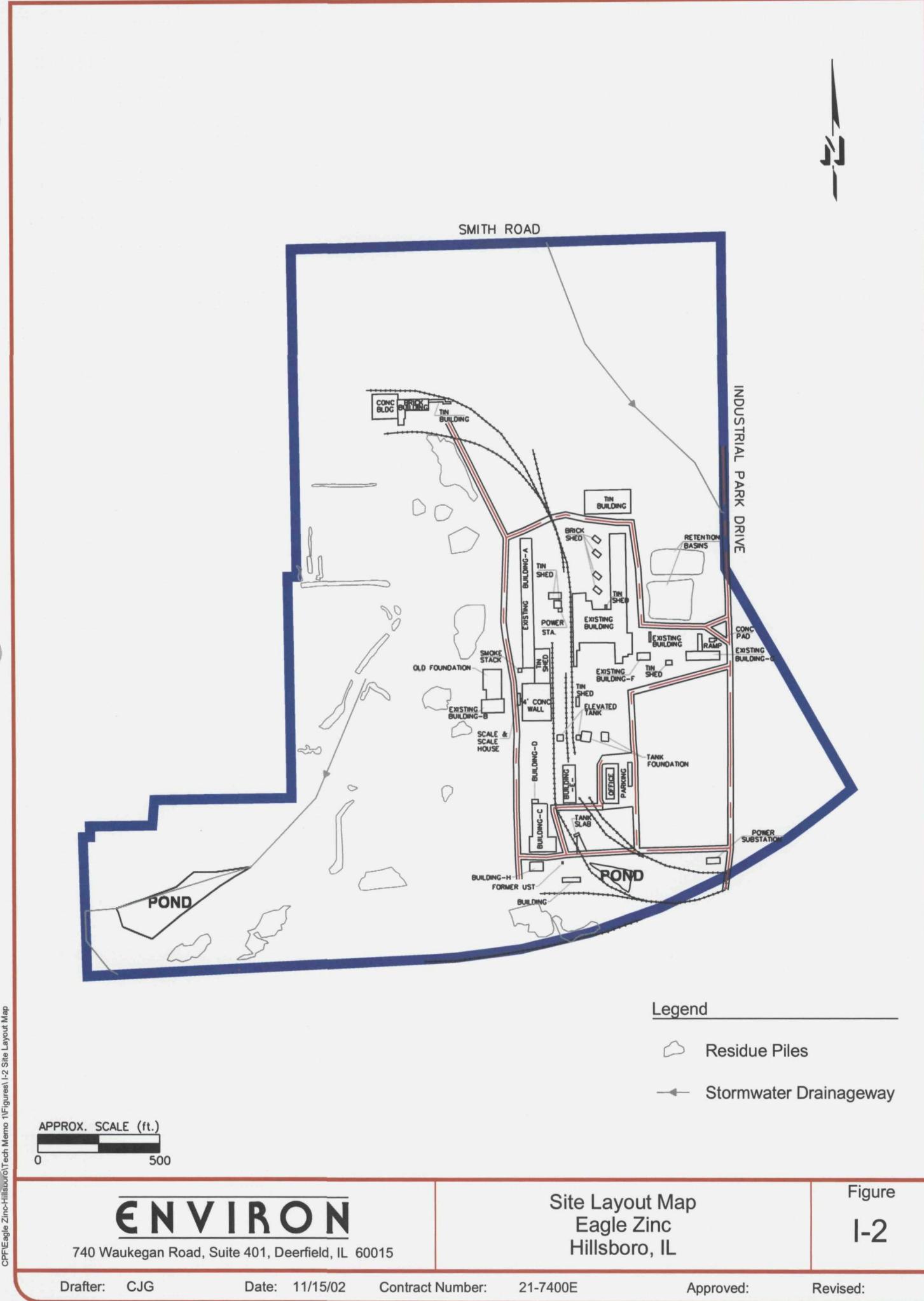
Table IV-9
Residue Sample Results
Metals
Eagle Zinc Company Site, Hillsboro, IL

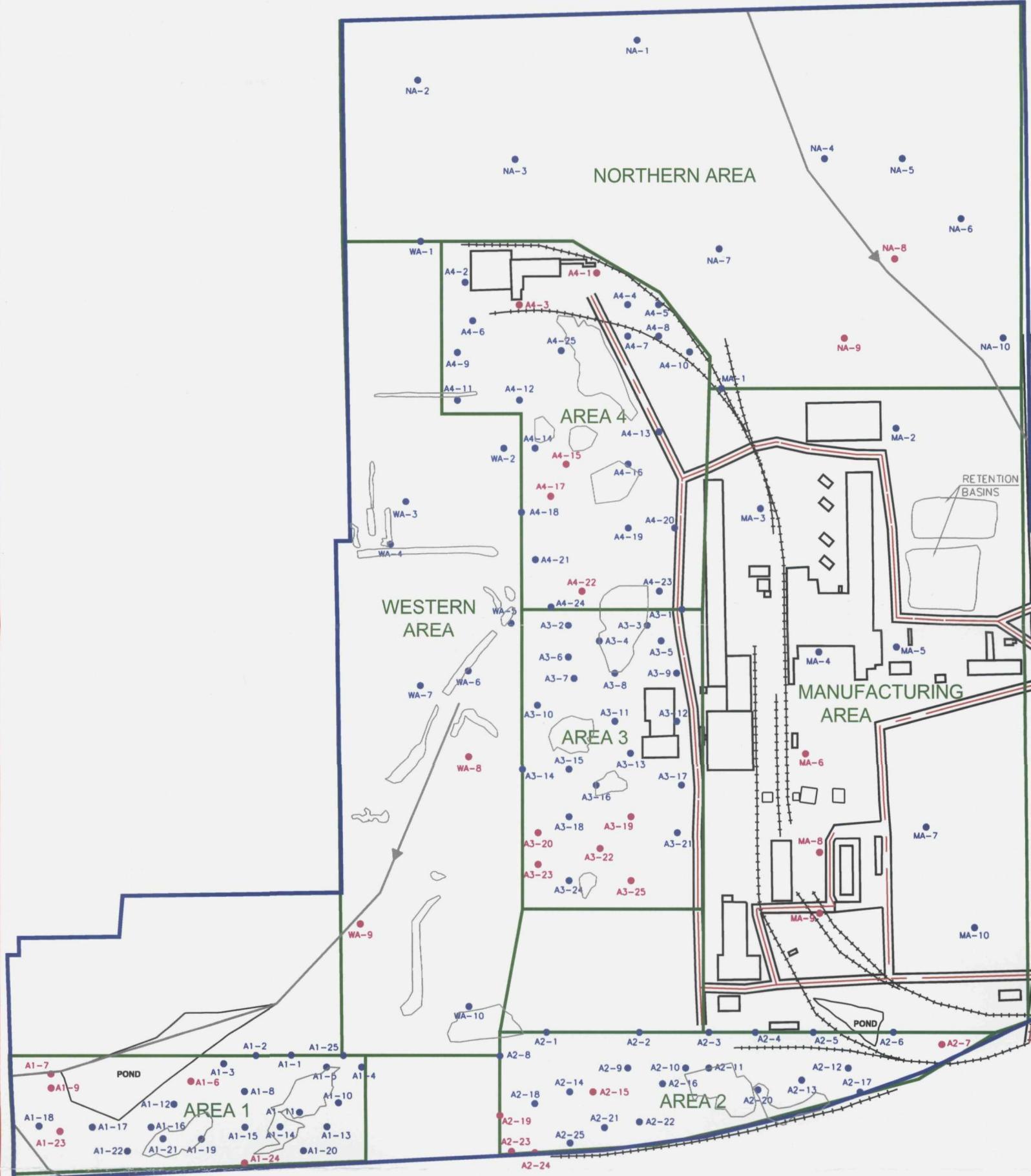
| | | Parameter | Mercury - SPLP | Mercury - TCLP | Selenium - SPLP | Selenium - TCLP | Silver - SPLP | Silver - TCLP |
|--|---------------|------------------------|----------------|----------------|-----------------|-----------------|---------------|---------------|
| Eagle Zinc Company Site Data (mg/L) | | | | | | | | |
| FieldID | Matrix | Collection Date | | | | | | |
| R-RC0-5 | Residue | 07/09/2002 | 0.0002 U | 0.0002 U | 0.015 U | 0.2 U | 0.005 U | 0.05 U |
| R-MP1-21 | Residue | 07/09/2002 | 0.0002 U | 0.0002 U | 0.015 U | 0.2 U | 0.005 U | 0.05 U |
| R-RR1-1 | Residue | 07/09/2002 | 0.0002 U | 0.0002 U | 0.015 U | 0.2 U | 0.005 U | 0.05 U |
| R-RR1-3 | Residue | 07/09/2002 | 0.0002 U | 0.0002 U | 0.015 U | 0.2 U | 0.005 U | 0.05 U |
| R-RR1-2 | Residue | 07/09/2002 | 0.0002 U | 0.0002 U | 0.015 U | 0.2 U | 0.005 U | 0.05 U |
| R-RR1-4 | Residue | 07/09/2002 | 0.0002 U | 0.0002 U | 0.015 U | 0.2 U | 0.005 U | 0.05 U |
| R-RR1-4D | Residue | 07/09/2002 | 0.0002 U | 0.0002 U | 0.015 U | 0.2 U | 0.005 U | 0.05 U |
| R-RR0-12 | Residue | 07/10/2002 | 0.0002 U | 0.0002 U | 0.015 U | 0.2 U | 0.005 U | 0.05 U |
| R-NP-13 | Residue | 07/10/2002 | 0.0002 U | 0.0002 U | 0.015 U | 0.2 U | 0.005 U | 0.05 U |
| R-NP-14 | Residue | 07/10/2002 | 0.0002 U | 0.0002 U | 0.015 U | 0.2 U | 0.005 U | 0.05 U |
| R-RR2-11 | Residue | 07/11/2002 | 0.0002 U | 0.0002 U | 0.015 U | 0.2 U | 0.005 U | 0.05 U |
| R-NP-15 | Residue | 07/11/2002 | 0.0002 U | 0.0002 U | 0.015 U | 0.2 U | 0.005 U | 0.05 U |
| R-CPH-6 | Residue | 07/11/2002 | 0.0002 U | 0.0002 U | 0.015 U | 0.2 U | 0.005 U | 0.05 U |
| R-NP-16 | Residue | 07/11/2002 | 0.0002 U | 0.0002 U | 0.015 U | 0.2 U | 0.005 U | 0.05 U |
| R-RC0-10 | Residue | 07/11/2002 | 0.0002 U | 0.0002 U | 0.015 U | 0.2 U | 0.005 U | 0.05 U |
| R-CPH-9 | Residue | 07/11/2002 | 0.0002 U | 0.0002 U | 0.015 U | 0.2 U | 0.005 U | 0.05 U |

U: Indicated undetected at concentration listed

FIGURES







Legend

- Soil Boring - Sample not Sent to Lab
- Soil Boring - Sample Sent to Lab



Stormwater Drainageway

APPROX. SCALE (ft.)
0 320

Figure

II-1

ENVIRON

740 Waukegan Road, Suite 401, Deerfield, IL 60015

Soil Boring Locations
Eagle Zinc
Hillsboro, Illinois

Drafter: APR

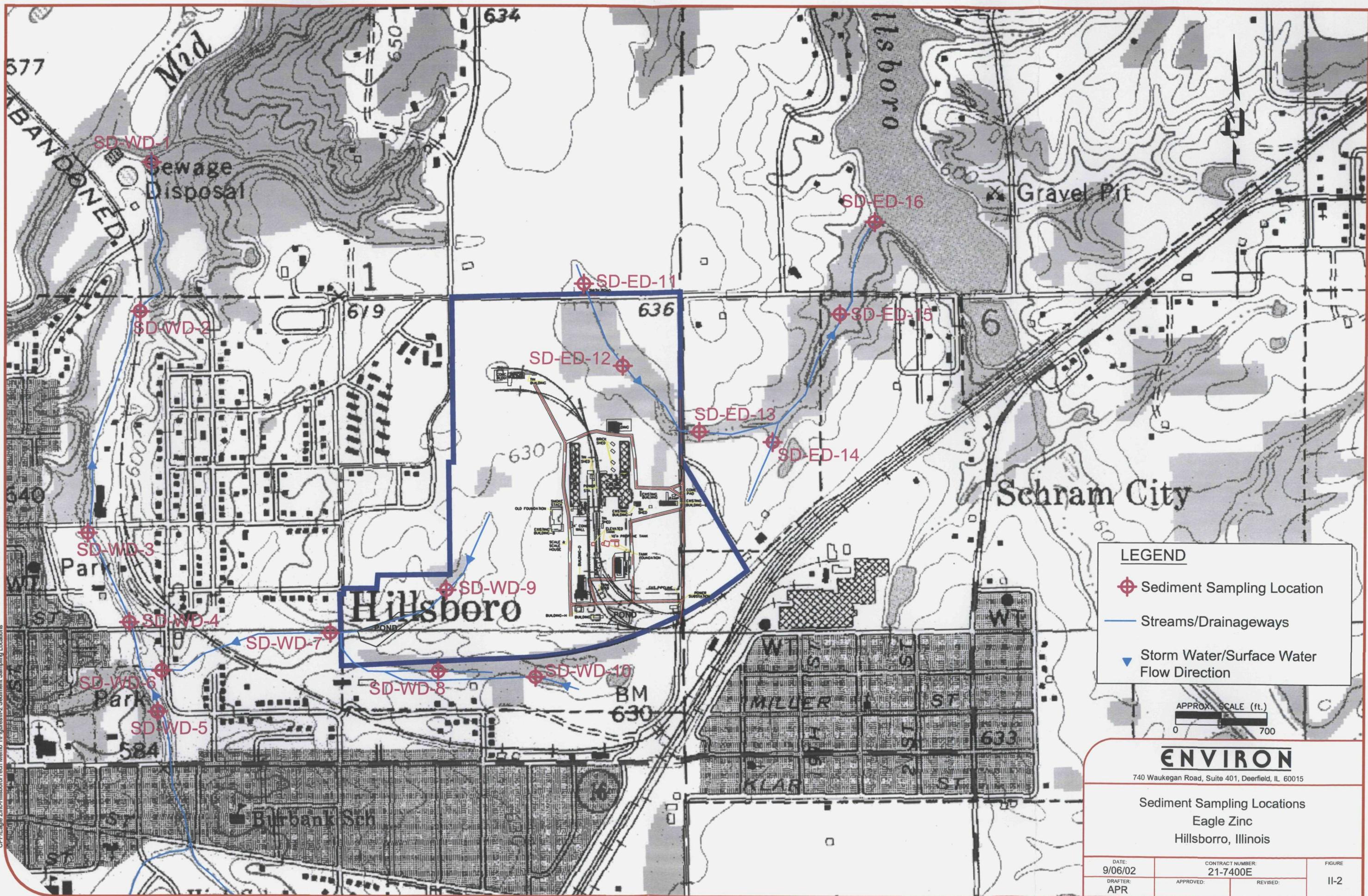
Date: 11/15/02

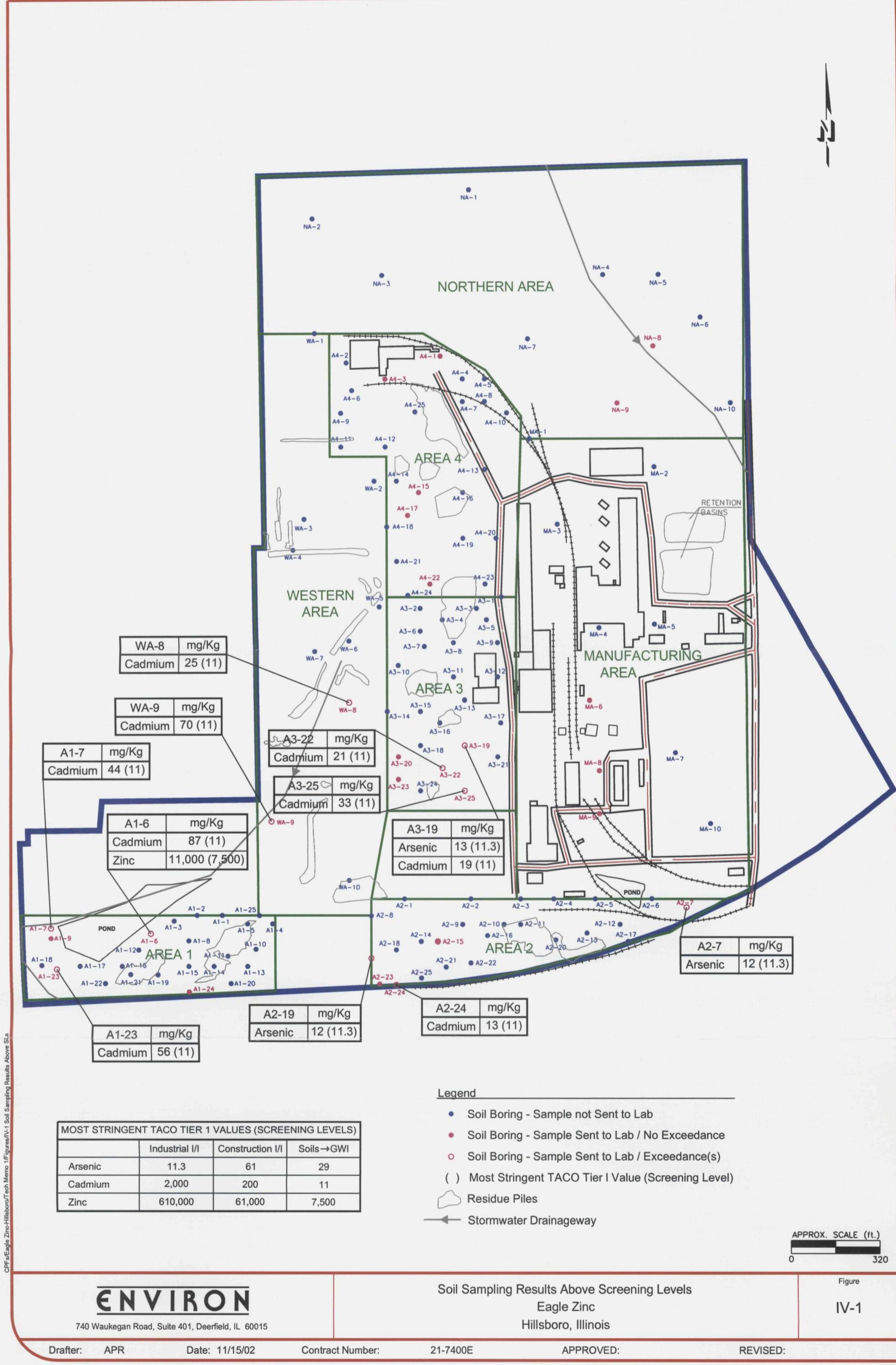
Contract Number:

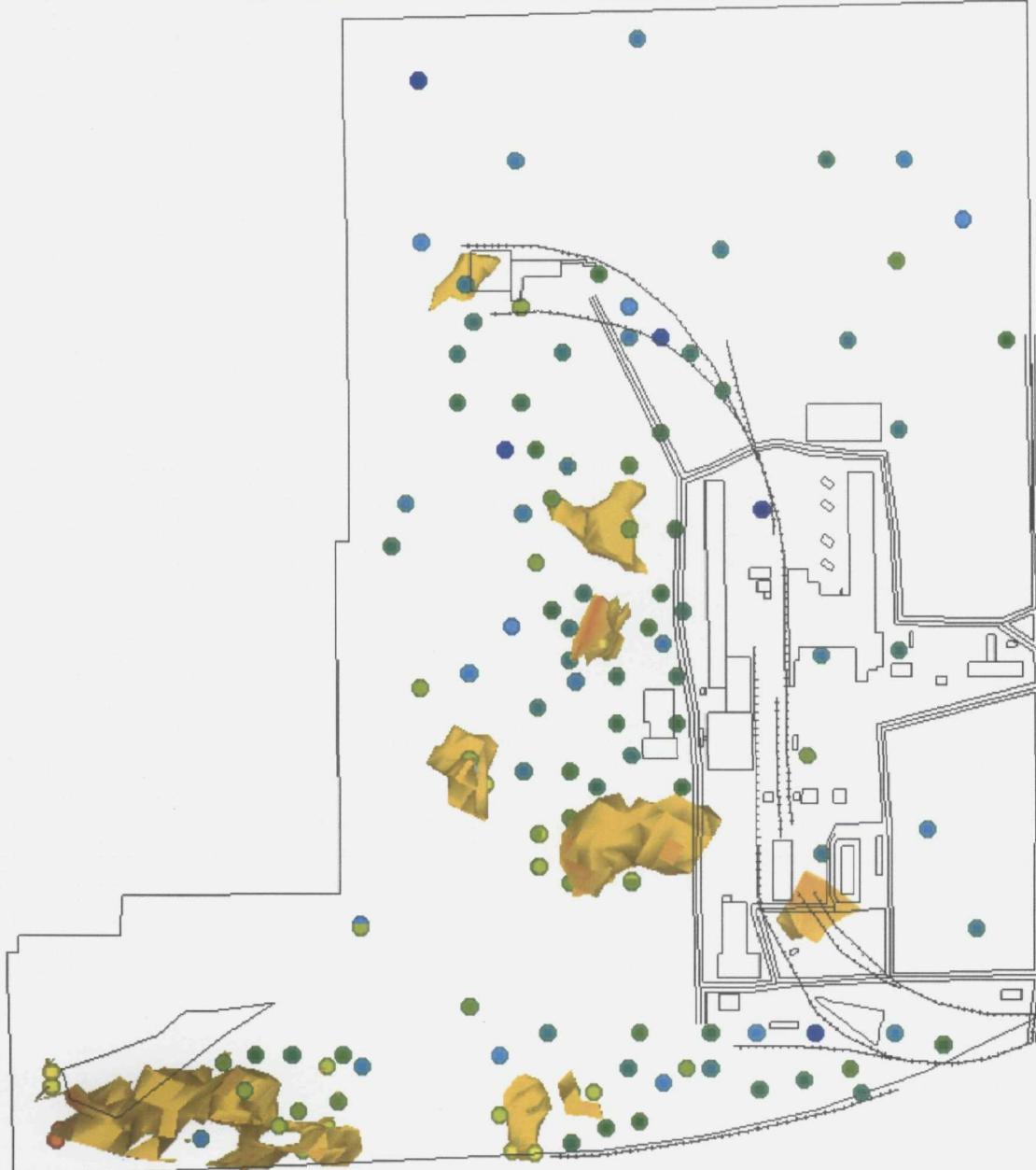
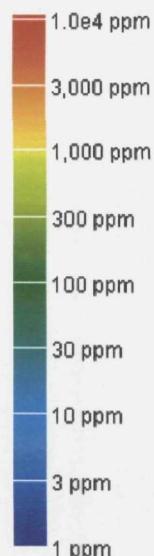
21-7400E

APPROVED:

REVISED:







Note: Determined using Environmental Visualization Software (EVS). Areas of cadmium exceedance for XRF screening data based on site-wide zinc/cadmium ratio. Plot depicts zinc levels > 1,653 mg/kg, predicted to have cadmium levels > screening levels.

APPROX. SCALE (ft.)
0 460

ENVIRON

740 Waukegan Road, Suite 401, Deerfield, IL 60015

Drafter: APR

Date: 11/15/02

Inferred Cadmium Exceedances of Screening Levels
Eagle Zinc
Hillsboro, Illinois

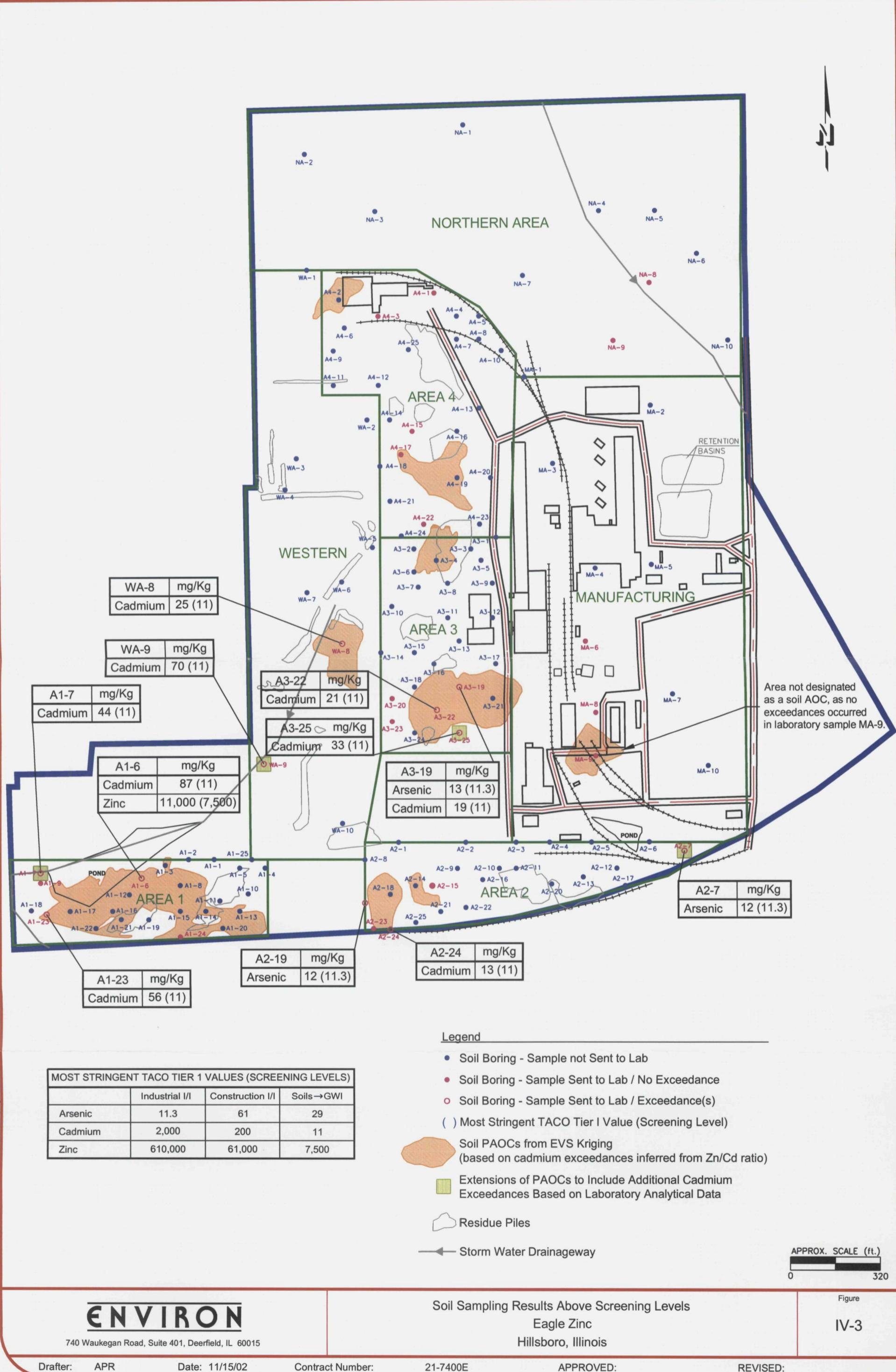
Contract Number:

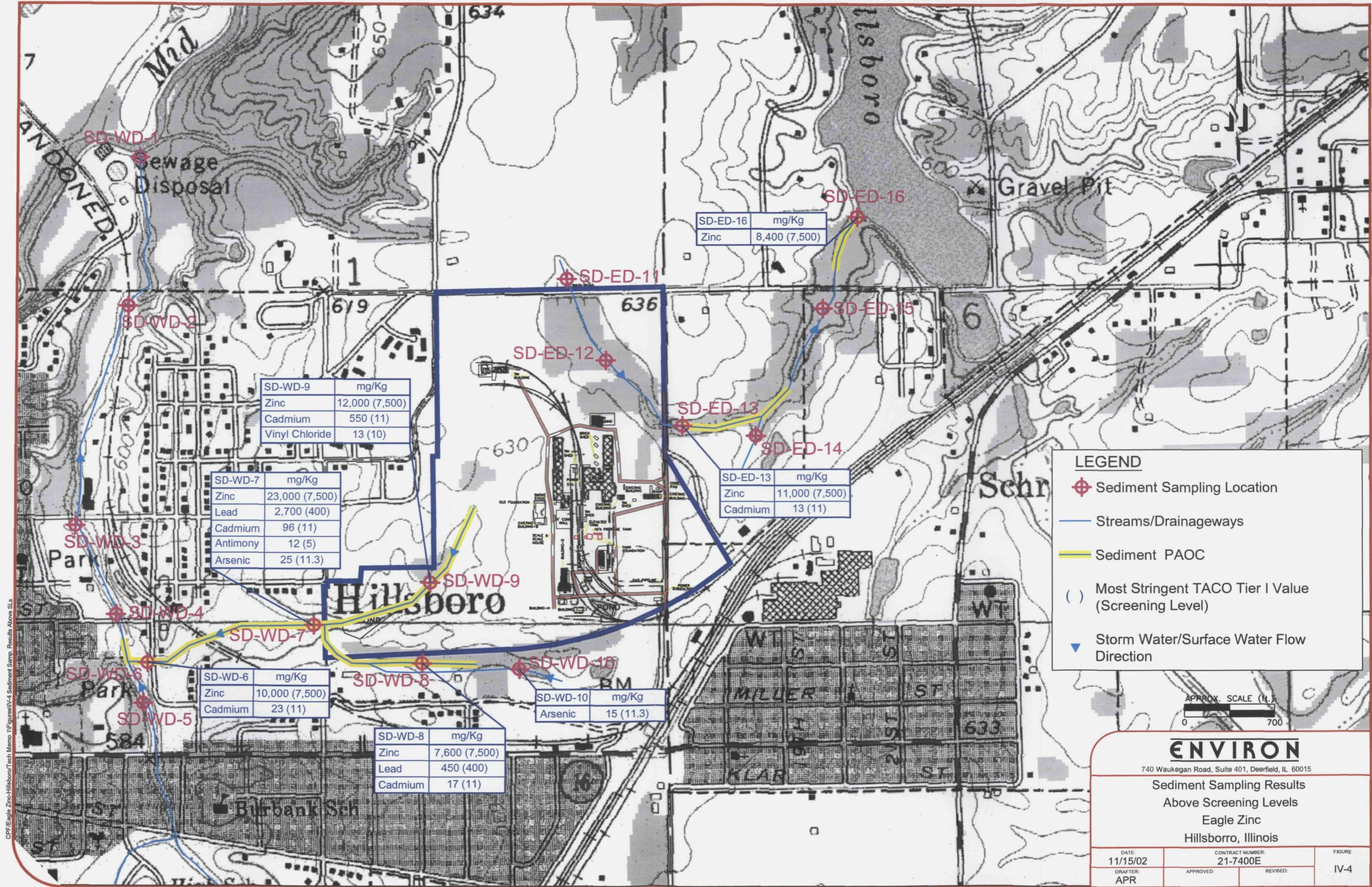
21-7400E

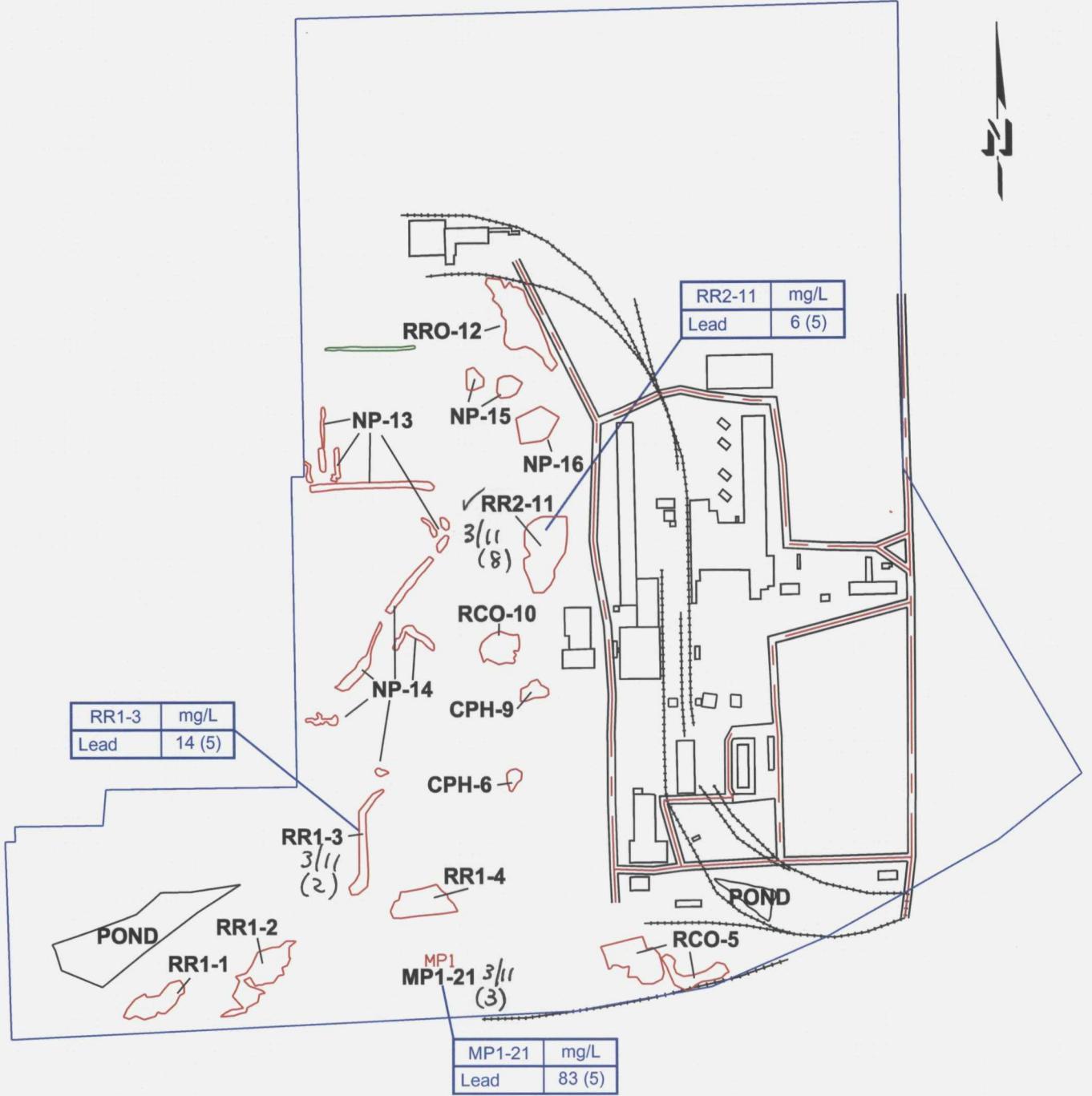
Approved:

Revised:

Figure
IV-2







- Sampled Residue Piles.
- Unsampled Residue Pile - insignificant residue quantity identified

RR1 = Rotary Residue Type 1

RR2 = Rotary Residue Type 2

RCO = Rotary Clean Out

RRO = Rotary Residue Oversize

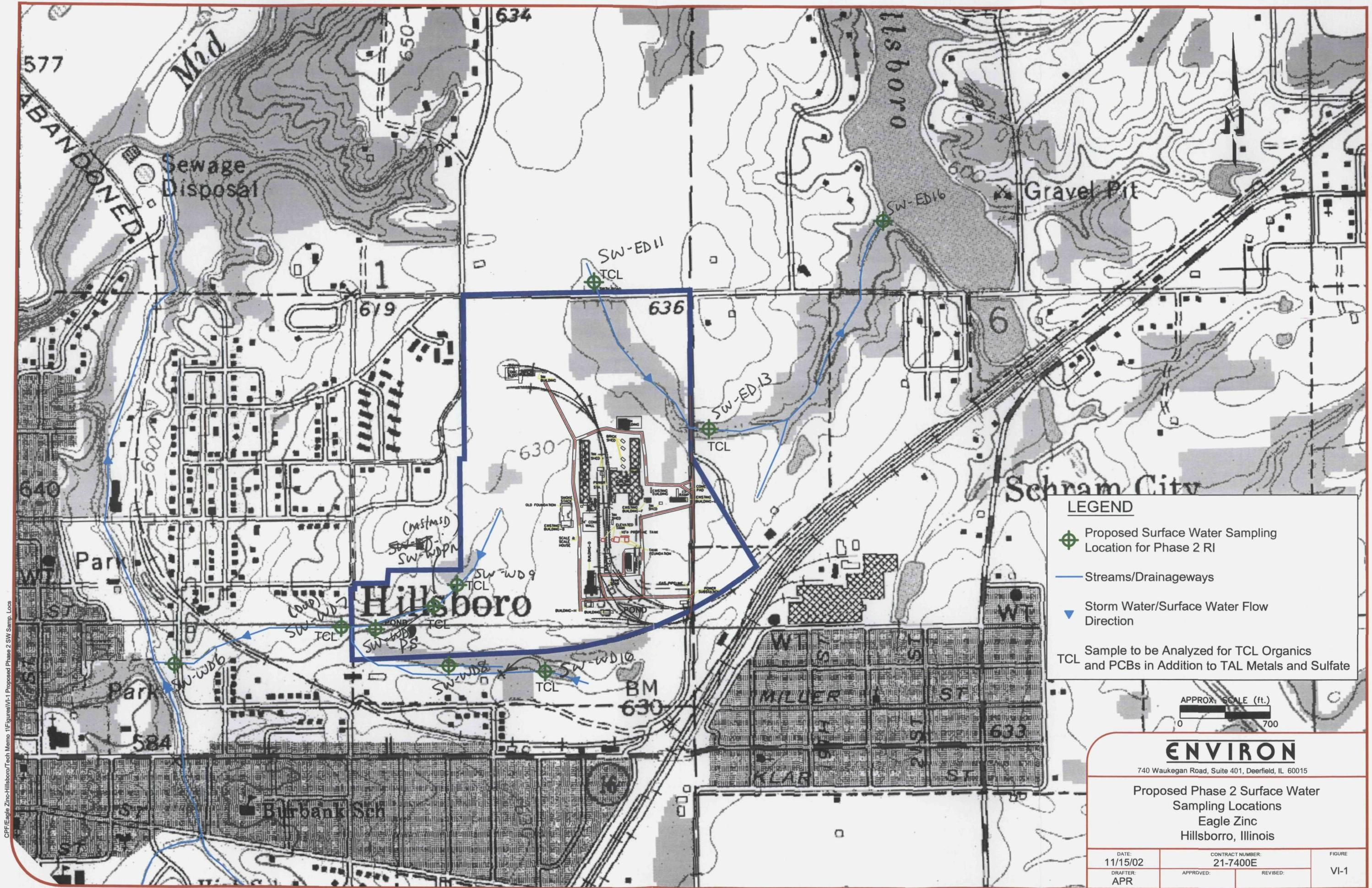
CPH = Carbon Plant Hutch

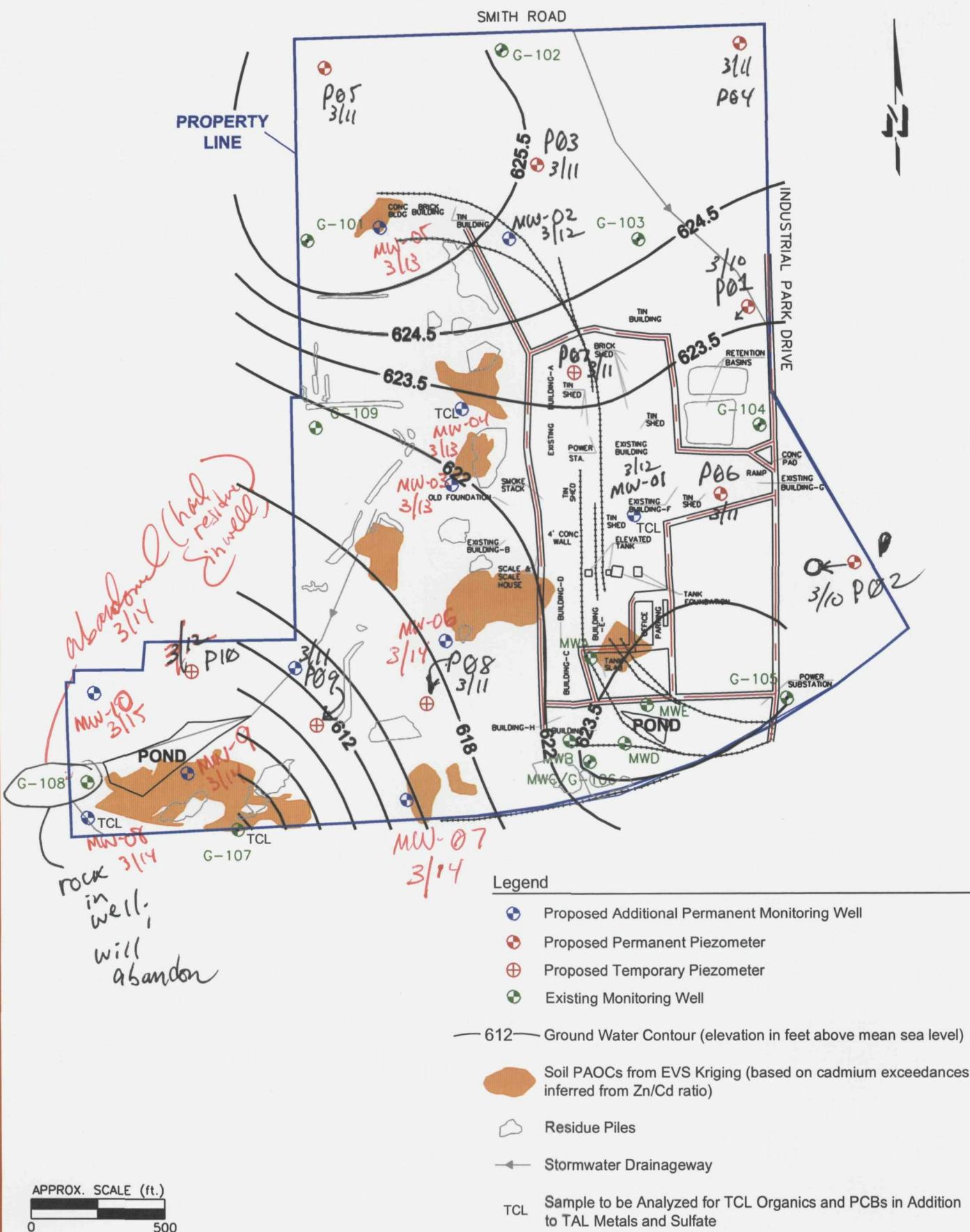
MP = Miscellaneous Piles

NP = Newly Identified Piles

() = RCRA Hazardous Waste Threshold
for TCLP Lead of 5.0 mg/L

APPX. SCALE (ft.)
0 450





CPF\Eagle Zinc-Hillsboro\Tech Memo 1\Figures\VI-2 Proposed Phase 2 Piezometer & MW Locations

APPROX. SCALE (ft.)

740 Waukegan Road, Suite 401, Deerfield, IL 60015

**Proposed Phase 2 Piezometer
and Monitoring Well Locations**
Eagle Zinc
Hillsboro, Illinois

Figure VI-2

Drafter APR

Date: 11/15/02

Contract Number:

21-7400E

Approved:

Revised:

A P P E N D I X A

Topographic Survey Map

SDMS US EPA Region V

Imagery Insert Form

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APPENDIX A: TOPOGRAPHIC SURVEY MAP



Other:

A P P E N D I X B

Soil Boring Logs

ENVIRON

740 Waukegan Rd., Suite 401
Deerfield, Illinois 60015

GEOLOGIC DRILL LOG

BOREHOLE NO.: A1-1

TOTAL DEPTH: 4 feet

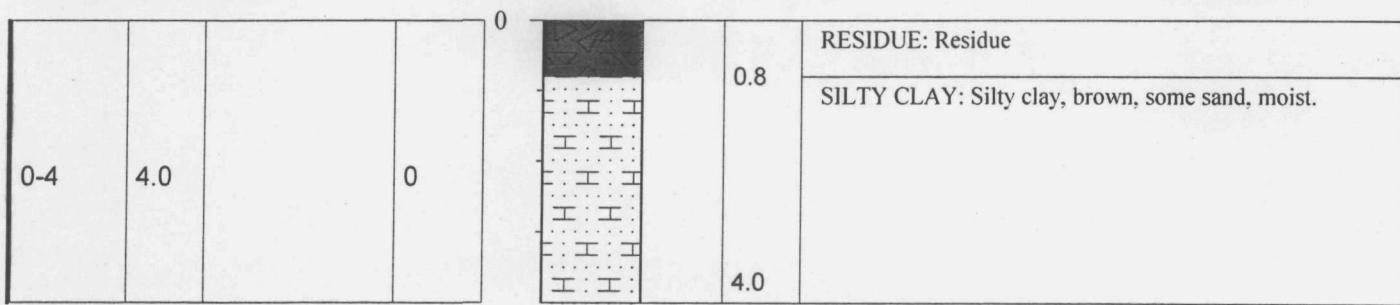
PROJECT: **Eagle Zinc**
SITE LOCATION: **Hillsboro, IL**
JOB NO.: **21-7400E**
LOGGED BY: **J. Fraser, C. Greco**
DATES DRILLED: **07/16/02**

DRILLING CO.: **Philips**
RIG TYPE: **Direct Push**
METHOD OF DRILLING: **Geoprobe**
SAMPLING METHODS: **Macrosampler**
HAMMER WT./DROP - -

SURVEY LOCATION: **E694717.8 N908219**

GROUND SURFACE ELEVATION:- N/A -

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0-4 | 4.0 | | 0 | | | | | |



ENVIRON

740 Waukegan Rd., Suite 401
Deerfield, Illinois 60015

GEOLOGIC DRILL LOG

BOREHOLE NO.: A1-2

TOTAL DEPTH: 8 feet

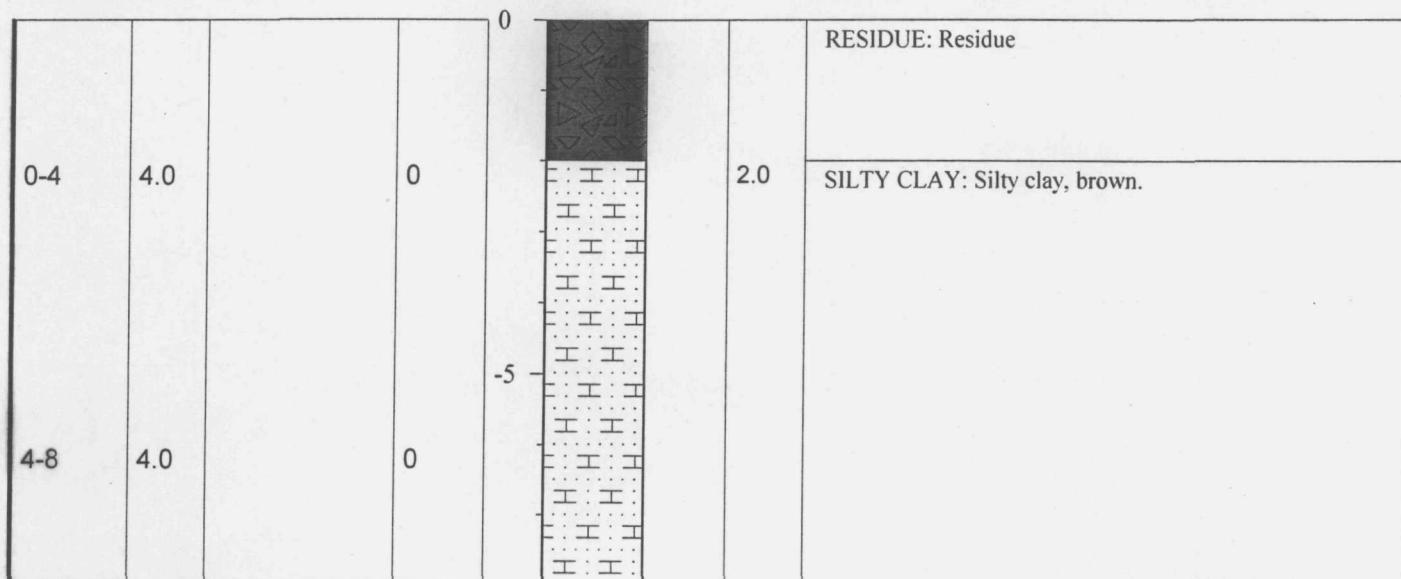
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 07/16/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macrosampler
HAMMER WT./DROP --

SURVEY LOCATION: E 694537.8 N 908249

GROUND SURFACE ELEVATION: 614.62'

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| | | | | | | | | |
| | | | | | | | | |



ENVIRON

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Deerfield, Illinois 60015

GEOLOGIC DRILL LOG

BOREHOLE NO.: A1-3
TOTAL DEPTH: 12 feet

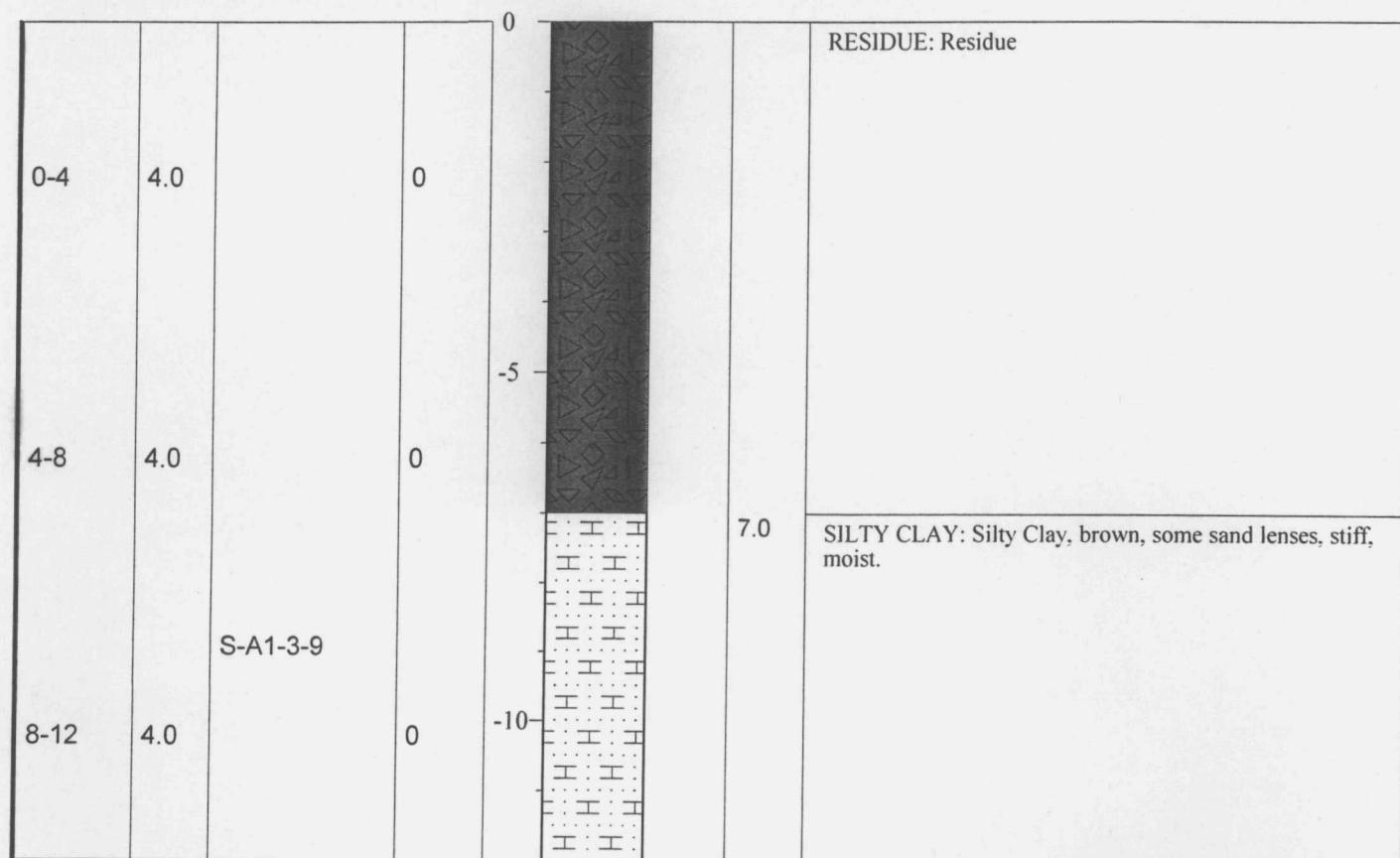
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 07/15/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macrosampler
HAMMER WT./DROP --

SURVEY LOCATION: E 694455.2 N 908228.8

GROUND SURFACE ELEVATION: 605.75'

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0-4 | 4.0 | | 0 | -5 | | | 7.0 | RESIDUE: Residue |



ENVIRON

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GEOLOGIC DRILL LOG

BOREHOLE NO.: A1-4

TOTAL DEPTH: 4 feet

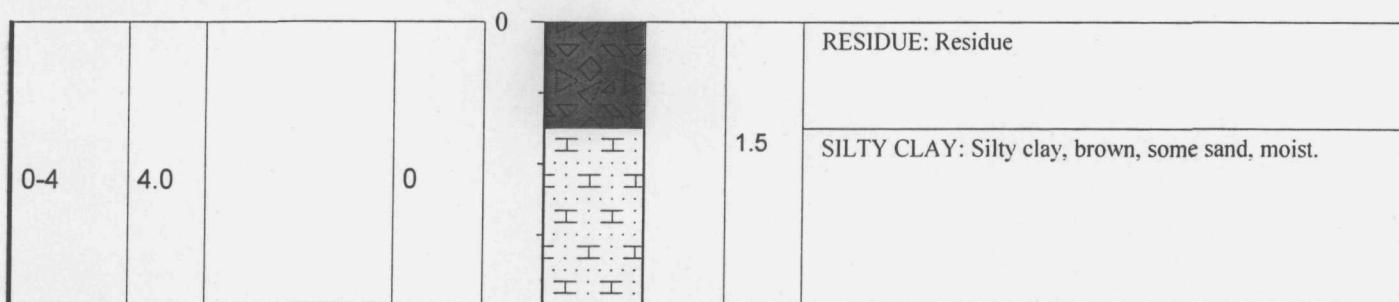
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 07/16/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macrosampler
HAMMER WT./DROP --

SURVEY LOCATION: E 694807.8 N 908219

GROUND SURFACE ELEVATION: 620.78'

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0-4 | 4.0 | | 0 | | | | | |



ENVIRON

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GEOLOGIC DRILL LOG

BOREHOLE NO.: A1-5

TOTAL DEPTH: 4 feet

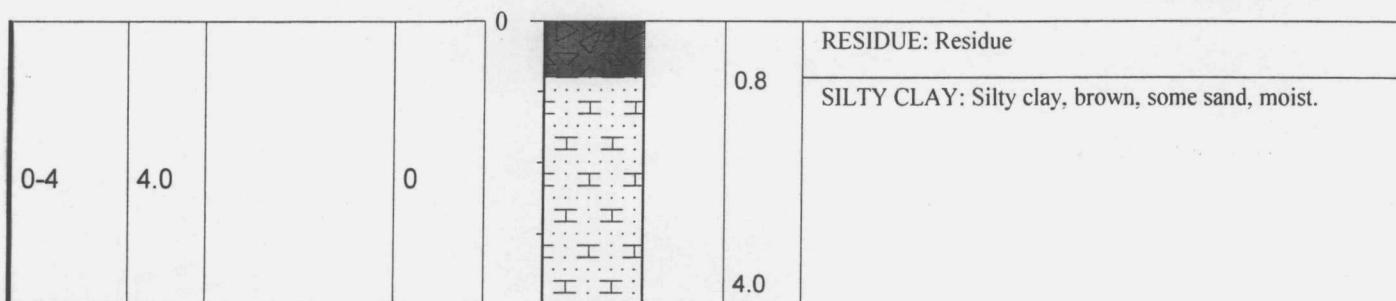
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 07/16/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macrosampler
HAMMER WT./DROP --

SURVEY LOCATION: E 694717.8 N 908219

GROUND SURFACE ELEVATION:N/A

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0-4 | 4.0 | | 0 | | | | | |



ENVIRON

740 Waukegan Rd., Suite 401
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GEOLOGIC DRILL LOG

BOREHOLE NO.: A1-6

TOTAL DEPTH: 12 feet

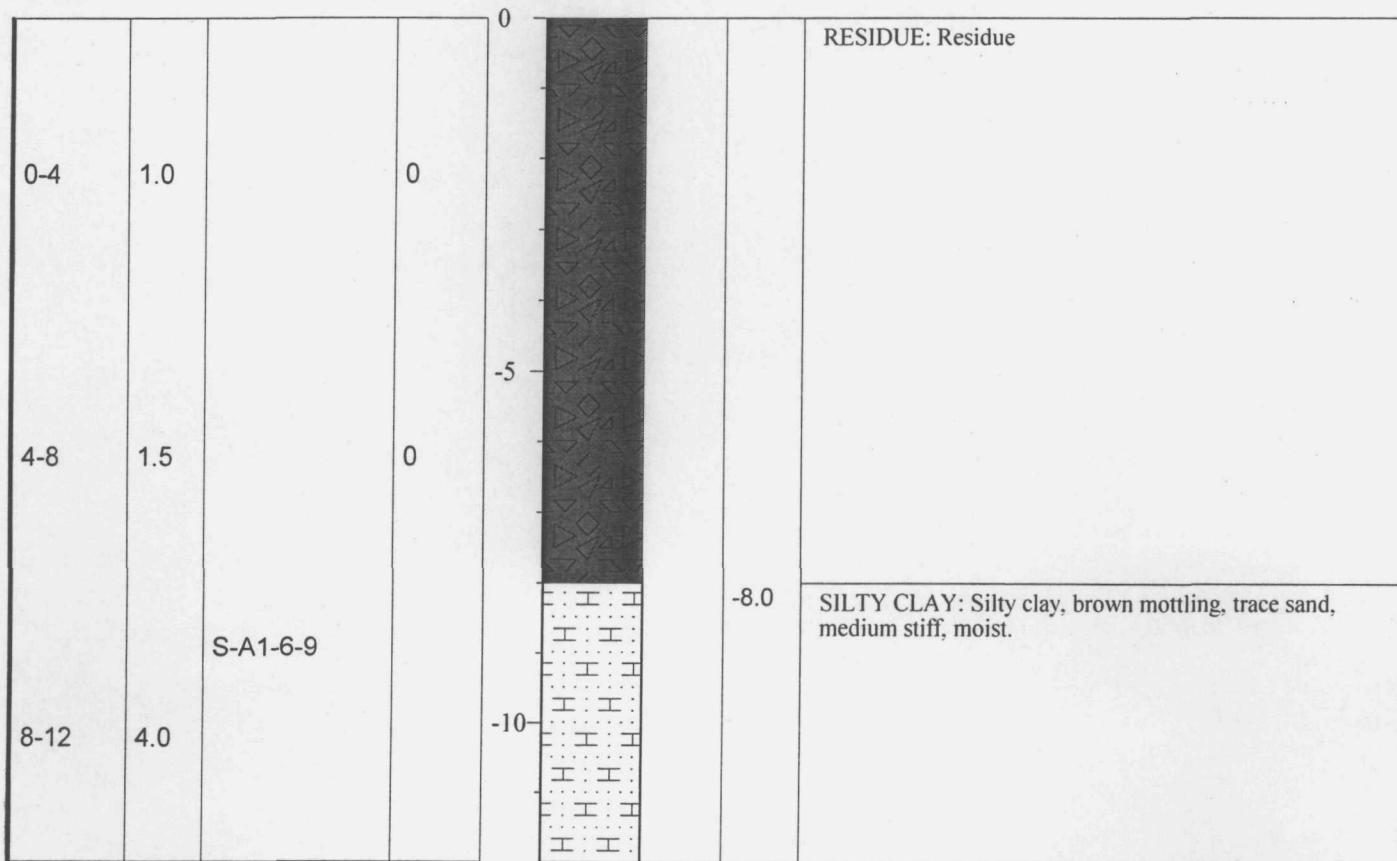
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 07/15/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macrosampler
HAMMER WT./DROP --

SURVEY LOCATION: E 694371 N 908184.3

GROUND SURFACE ELEVATION: 600.39'

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0-4 | 1.0 | | 0 | 0 | -5 | | -8.0 | RESIDUE: Residue |



ENVIRON

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GEOLOGIC DRILL LOG

BOREHOLE NO.: A1-7

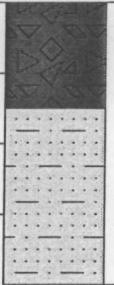
TOTAL DEPTH: 4 feet

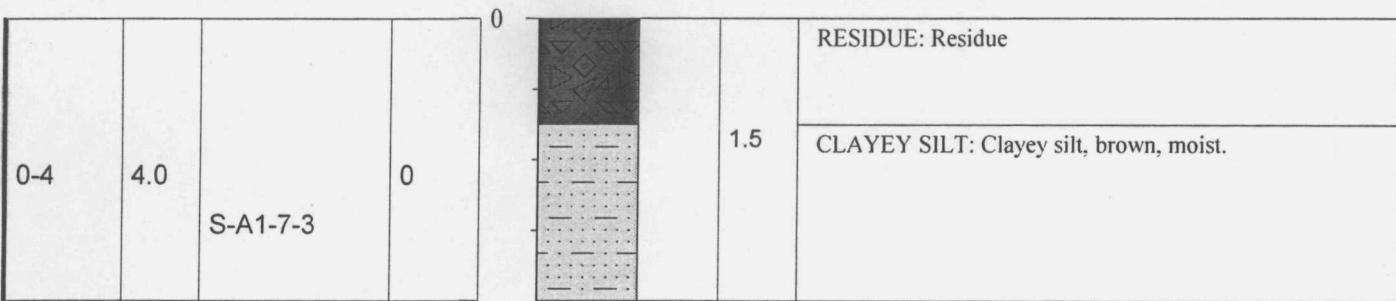
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 07/15/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E 694014.6 N 908202.6

GROUND SURFACE ELEVATION:N/A

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|--|------|------------------|---|
| 0-4 | 4.0 | S-A1-7-3 | 0 | 0 |  | | 1.5 | RESIDUE: Residue CLAYEY SILT: Clayey silt, brown, moist. |



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Deerfield, Illinois 60015

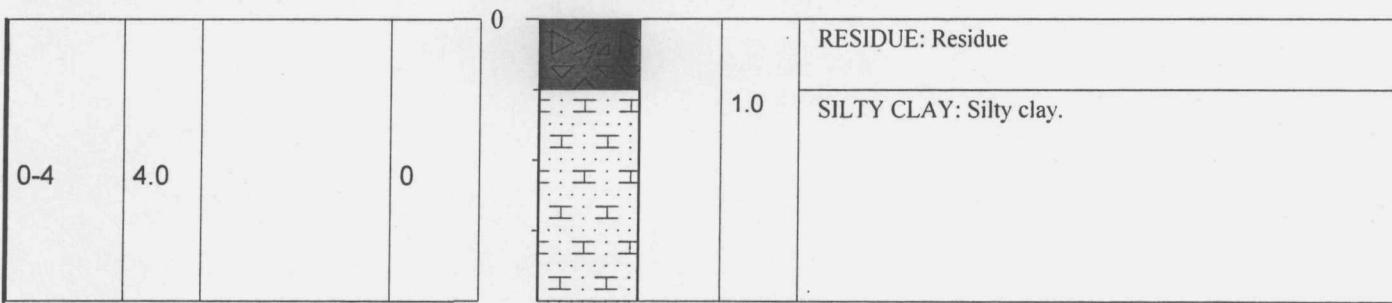
GEOLOGIC DRILL LOGBOREHOLE NO.: **A1-8**TOTAL DEPTH: **4 feet**

PROJECT: **Eagle Zinc**
SITE LOCATION: **Hillsboro, IL**
JOB NO.: **21-7400E**
LOGGED BY: **J. Fraser, C. Greco**
DATES DRILLED: **07/16/02**

DRILLING CO.: **Philips**
RIG TYPE: **Direct Push**
METHOD OF DRILLING: **Geoprobe**
SAMPLING METHODS: **Macro-core Sampler**
HAMMER WT./DROP **--**

SURVEY LOCATION: **E 964807.8, N 908219**GROUND SURFACE ELEVATION: **620.78'**

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0-4 | 4.0 | | 0 | 0 | | | | |



ENVIRON

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GEOLOGIC DRILL LOG

BOREHOLE NO.: A1-9

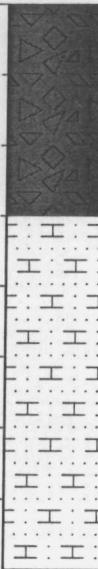
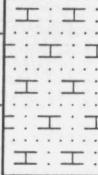
TOTAL DEPTH: 8 feet

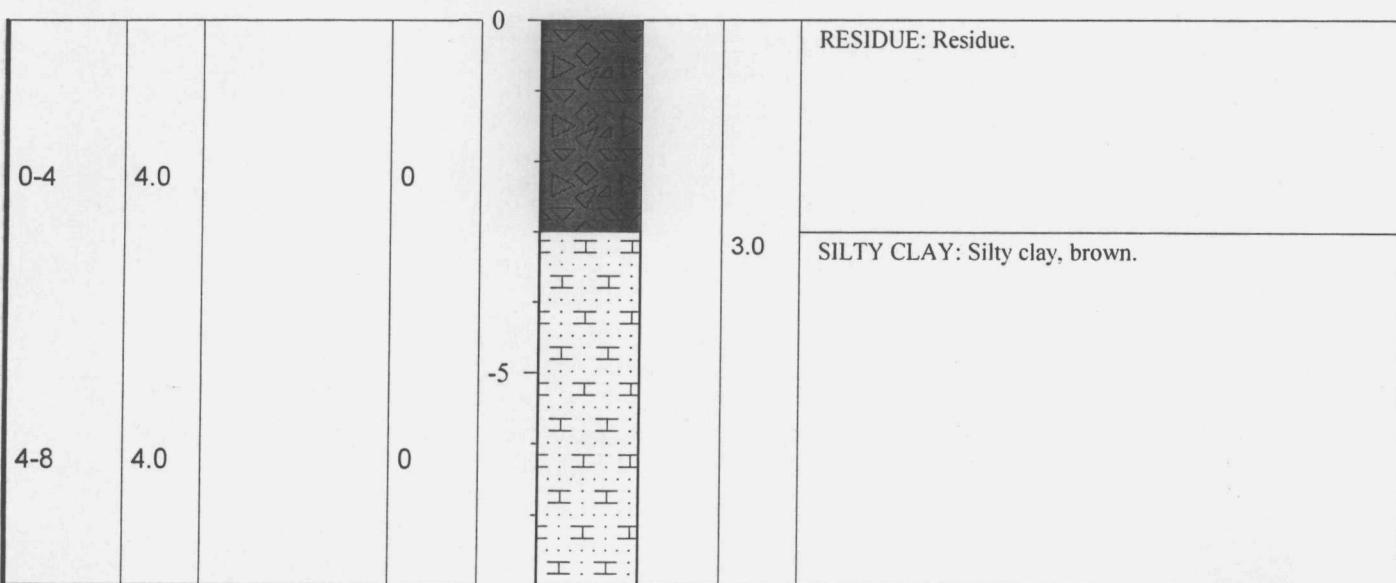
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 07/16/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E 694014.7, N 908167.2

GROUND SURFACE ELEVATION: 593.17'

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|---|------|------------------|--------------------------------|
| 0-4 | 4.0 | | 0 | 0 |  | | 0 | RESIDUE: Residue. |
| 4-8 | 4.0 | | 0 | -5 |  | | 3.0 | SILTY CLAY: Silty clay, brown. |



ENVIRON

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GEOLOGIC DRILL LOG

BOREHOLE NO.: A1-10
TOTAL DEPTH: 4 feet

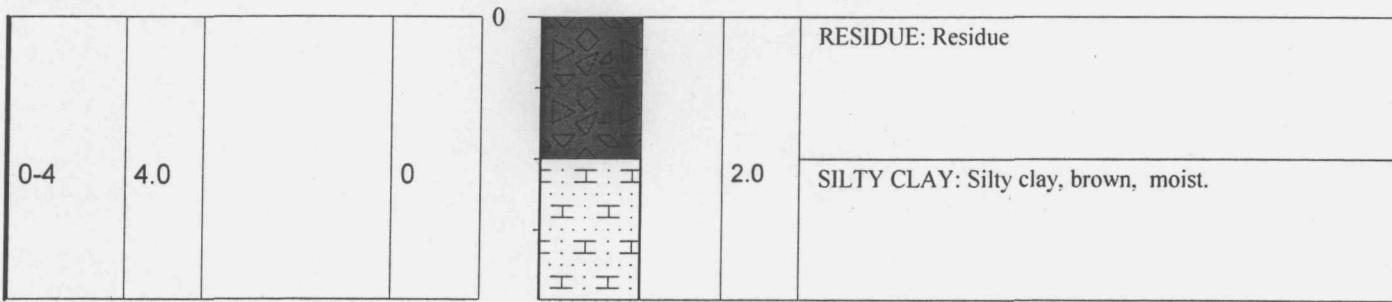
PROJECT: **Eagle Zinc**
SITE LOCATION: **Hillsboro, IL**
JOB NO.: **21-7400E**
LOGGED BY: **J. Fraser, C. Greco**
DATES DRILLED: **07/15/02**

DRILLING CO.: **Philips**
RIG TYPE: **Direct Push**
METHOD OF DRILLING: **Geoprobe**
SAMPLING METHODS: **Macrosampler**
HAMMER WT./DROP **--**

SURVEY LOCATION: **E 694627.8 N 908249**

GROUND SURFACE ELEVATION: **616.38'**

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|--|------|------------------|---|
| 0-4 | 4.0 | | 0 | 0 |  | | 0-2.0 | RESIDUE: Residue SILTY CLAY: Silty clay, brown, moist. |



ENVIRON

740 Waukegan Rd., Suite 401
Deerfield, Illinois 60015

GEOLOGIC DRILL LOG

BOREHOLE NO.: A1-11

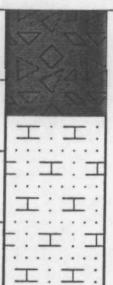
TOTAL DEPTH: 4.0

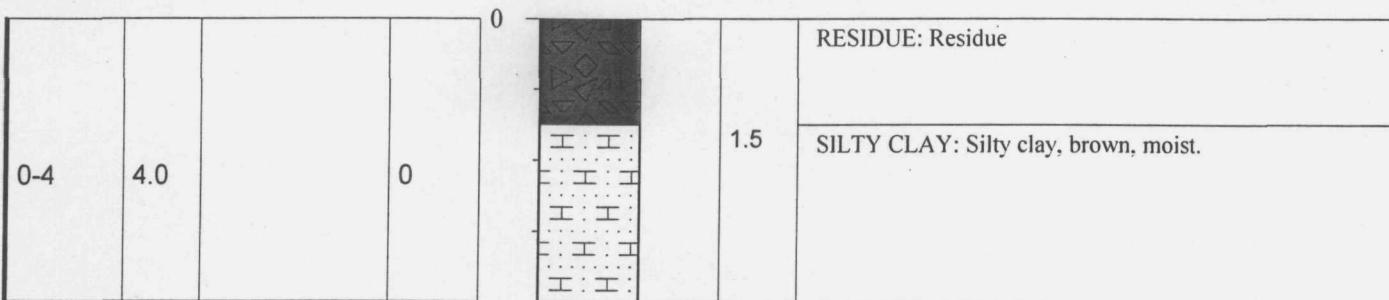
PROJECT: **Eagle Zinc**
SITE LOCATION: **Hillsboro, IL**
JOB NO.: **21-7400E**
LOGGED BY: **J. Fraser, C. Greco**
DATES DRILLED: **07/15/02**

DRILLING CO.: **Philips**
RIG TYPE: **Direct Push**
METHOD OF DRILLING: **Geoprobe**
SAMPLING METHODS: **Macro-core Sampler**
HAMMER WT./DROP --

SURVEY LOCATION: E 694647.9, N 908105.2

GROUND SURFACE ELEVATION: 619.51

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|--|------|------------------|---|
| 0-4 | 4.0 | | 0 | 0 |  | | 0 - 1.5 | RESIDUE: Residue SILTY CLAY: Silty clay, brown, moist. |



ENVIRON740 Waukegan Rd., Suite 401
Deerfield, Illinois 60015**GEOLOGIC DRILL LOG**

BOREHOLE NO.: A1-12

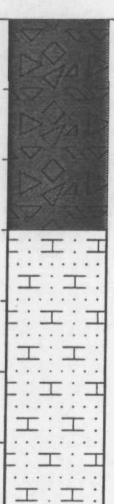
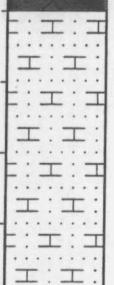
TOTAL DEPTH: 7 feet

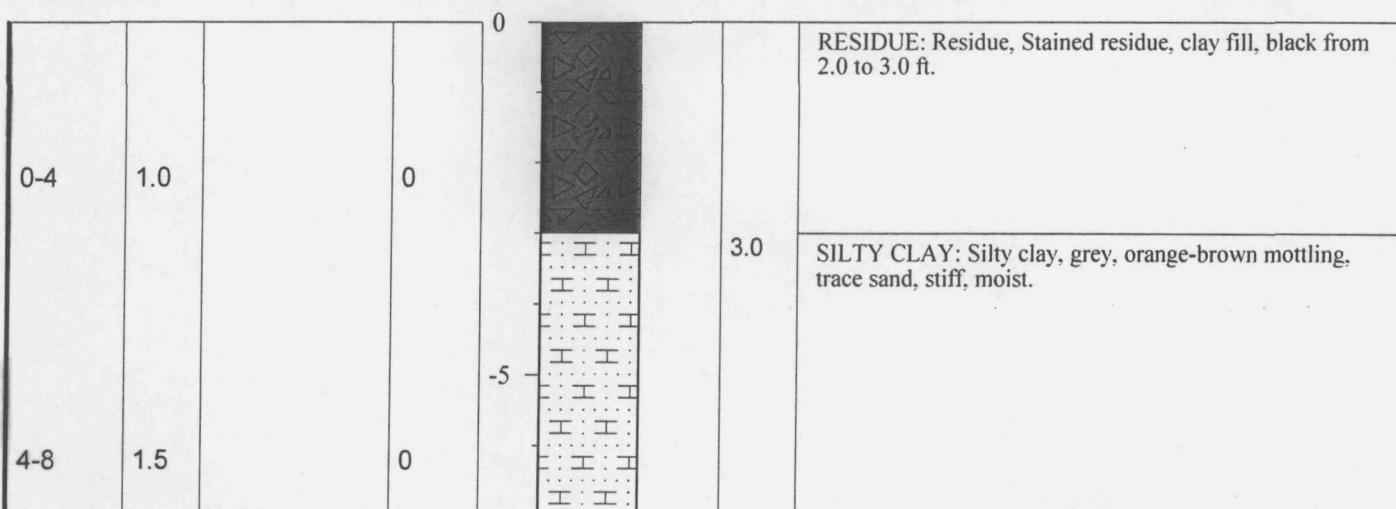
PROJECT: **Eagle Zinc**
SITE LOCATION: **Hillsboro, IL**
JOB NO.: **21-7400E**
LOGGED BY: **J. Fraser, C. Greco**
DATES DRILLED: **07/15/02**

DRILLING CO.: **Philips**
RIG TYPE: **Direct Push**
METHOD OF DRILLING: **Geoprobe**
SAMPLING METHODS: **Macrosampler**
HAMMER WT./DROP **--**

SURVEY LOCATION: E 694327.4 N 908126.8

GROUND SURFACE ELEVATION: 613.58'

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|---|------|------------------|--|
| 0-4 | 1.0 | | 0 | 0 |  | | 3.0 | RESIDUE: Residue, Stained residue, clay fill, black from 2.0 to 3.0 ft. |
| 4-8 | 1.5 | | 0 | -5 |  | | | SILTY CLAY: Silty clay, grey, orange-brown mottling, trace sand, stiff, moist. |



ENVIRON

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Deerfield, Illinois 60015

GEOLOGIC DRILL LOG

BOREHOLE NO.: A1-13
TOTAL DEPTH: 4 feet

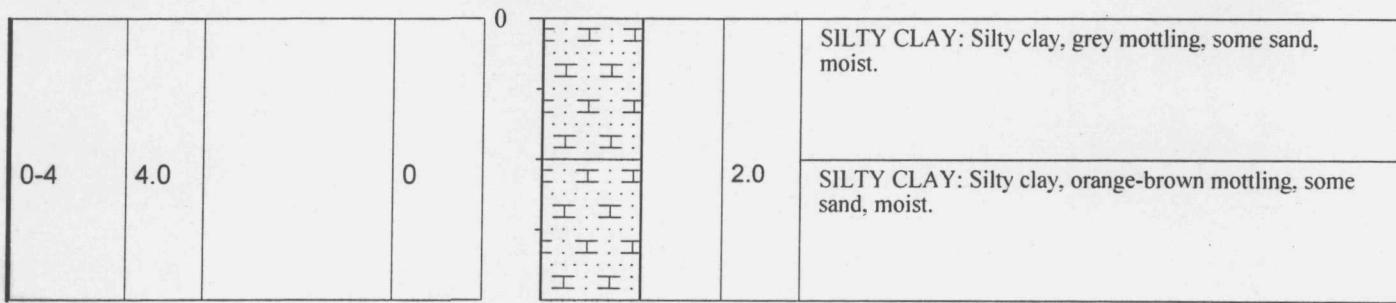
PROJECT: **Eagle Zinc**
SITE LOCATION: **Hillsboro, IL**
JOB NO.: **21-7400E**
LOGGED BY: **J. Fraser, C. Greco**
DATES DRILLED: **07/16/02**

DRILLING CO.: **Philips**
RIG TYPE: **Direct Push**
METHOD OF DRILLING: **Geoprobe**
SAMPLING METHODS: **Macrosampler**
HAMMER WT./DROP **--**

SURVEY LOCATION: E 694717.8 N 908069

GROUND SURFACE ELEVATION: 612.72'

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|---------------------------------|------|------------------|--|
| 0-4 | 4.0 | | 0 | 0 | H:H:H:H:H:H:H:H:H:H:H:H:H:H:H:H | | 2.0 | SILTY CLAY: Silty clay, grey mottling, some sand, moist. SILTY CLAY: Silty clay, orange-brown mottling, some sand, moist. |



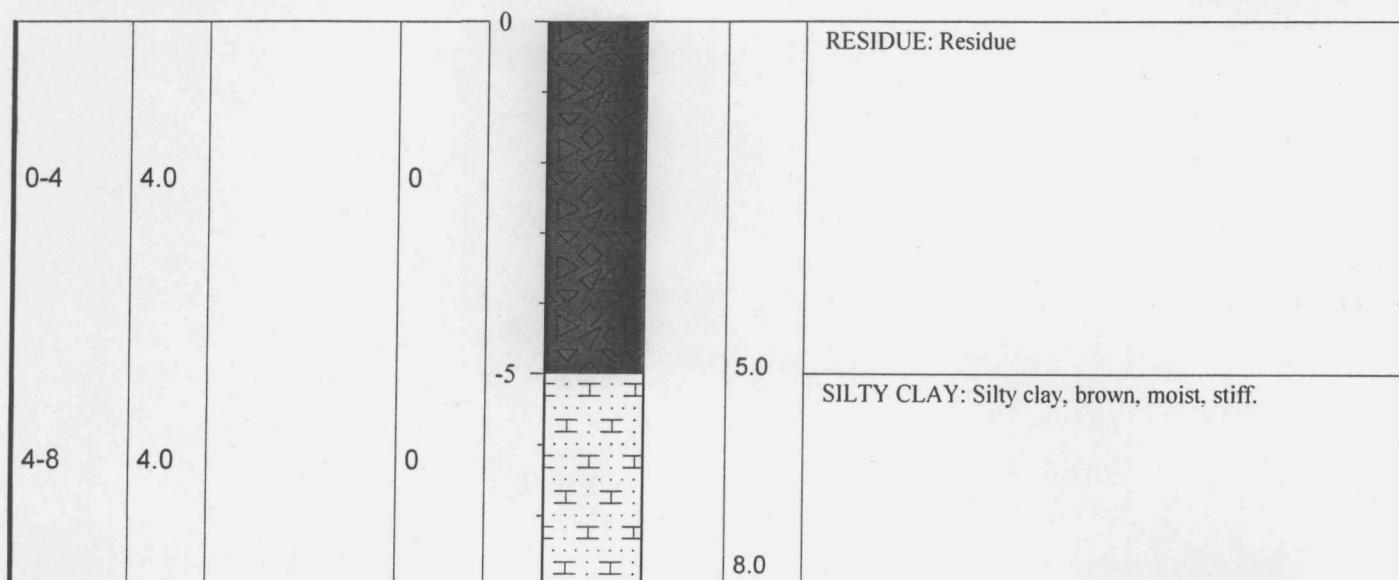
ENVIRON740 Waukegan Rd., Suite 401
Deerfield, Illinois 60015**GEOLOGIC DRILL LOG**BOREHOLE NO.: **A1-14**TOTAL DEPTH: **8.0**

PROJECT: **Eagle Zinc**
SITE LOCATION: **Hillsboro, IL**
JOB NO.: **21-7400E**
LOGGED BY: **J. Fraser, C. Greco**
DATES DRILLED: **07/16/02**

DRILLING CO.: **Philips**
RIG TYPE: **Direct Push**
METHOD OF DRILLING: **Geoprobe**
SAMPLING METHODS: **Macro-core Sampler**
HAMMER WT./DROP **--**

SURVEY LOCATION: **E 694597.8, N 908069**GROUND SURFACE ELEVATION: **620.18**

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0-4 | 4.0 | | 0 | 0 | | | | |



ENVIRON

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GEOLOGIC DRILL LOG

BOREHOLE NO.: A1-15

TOTAL DEPTH: 12.0

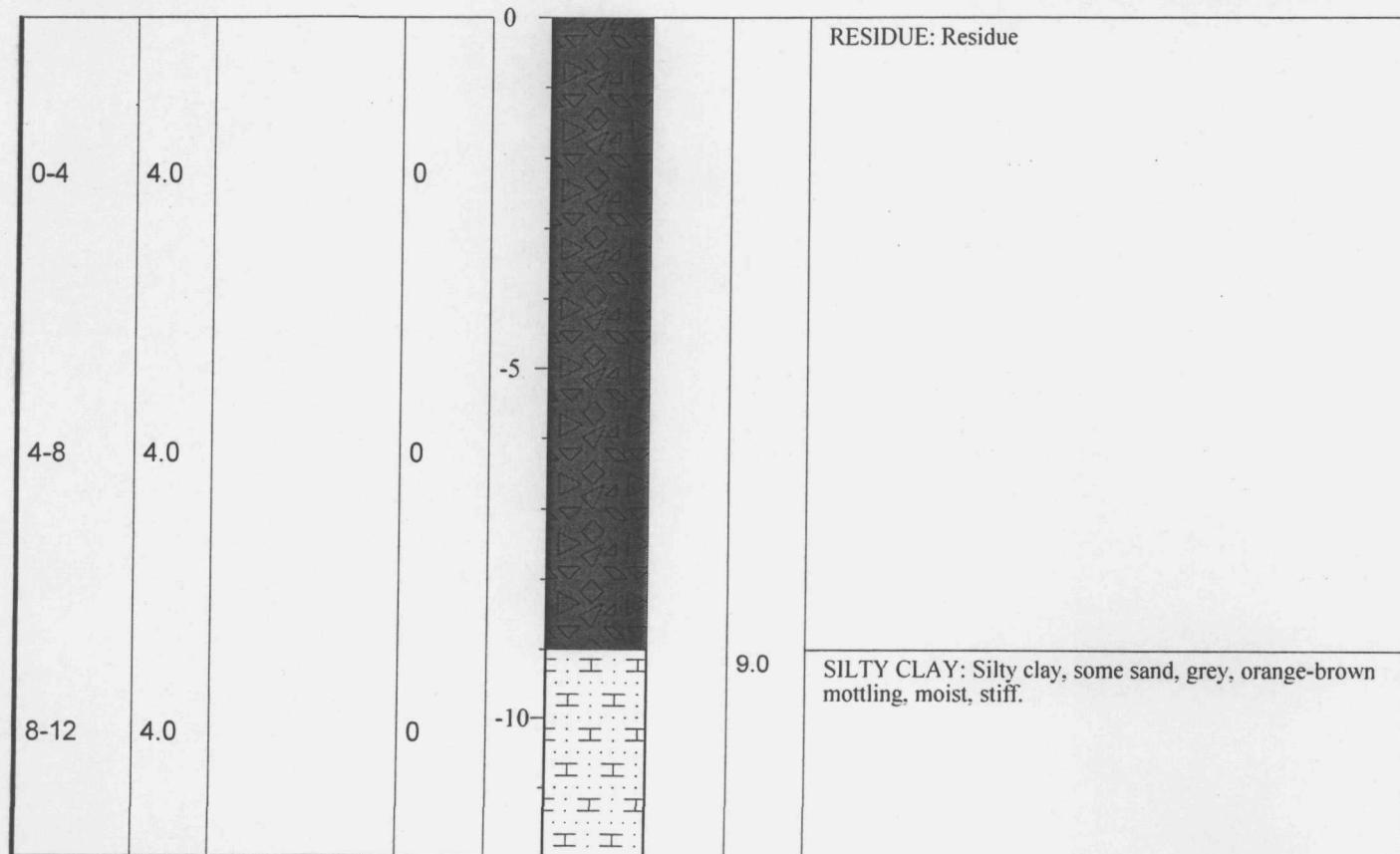
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 07/16/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E 694507.8, N 908069

GROUND SURFACE ELEVATION: 616.86

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0-4 | 4.0 | | 0 | -5 | | | 9.0 | RESIDUE: Residue |



ENVIRON

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GEOLOGIC DRILL LOG

BOREHOLE NO.: A1-16

TOTAL DEPTH: 11 feet

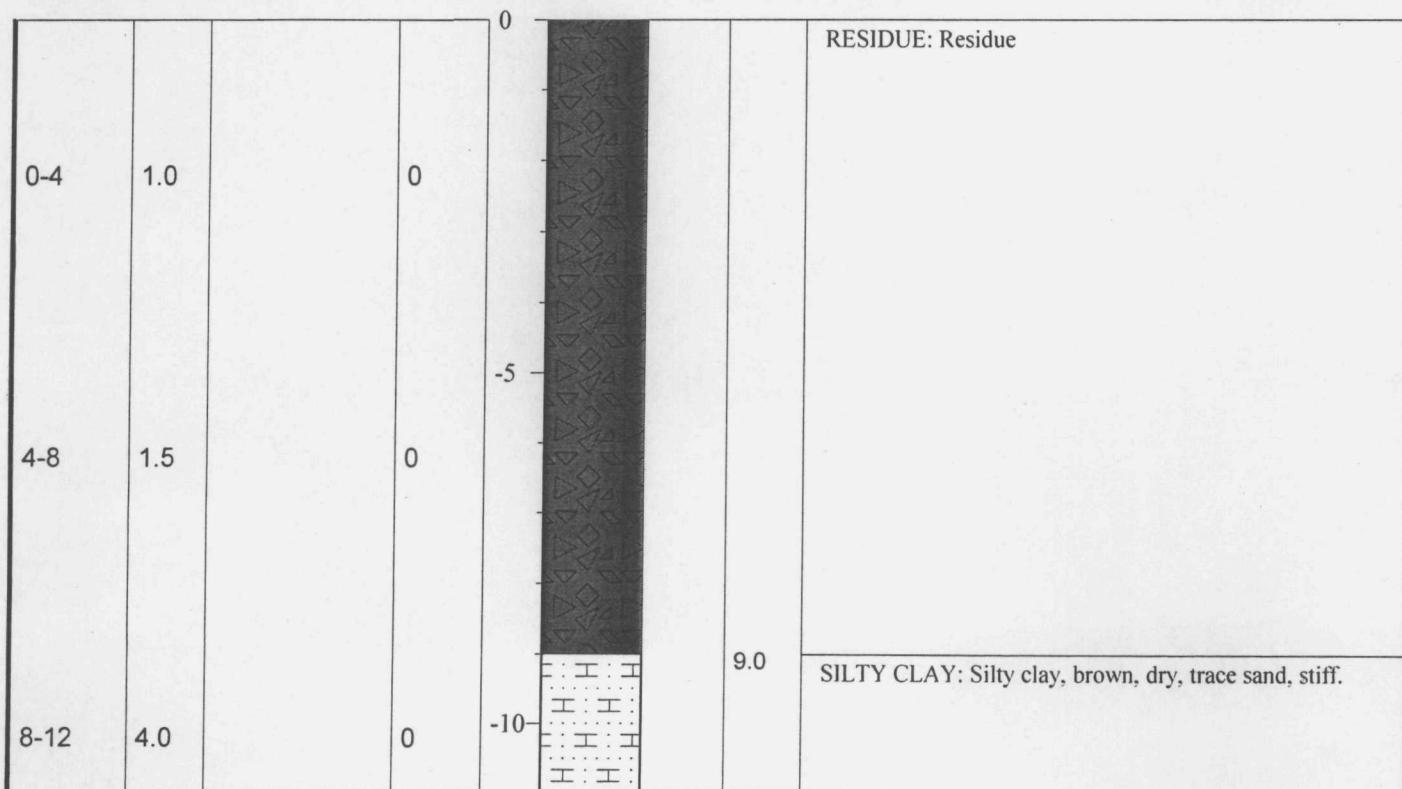
PROJECT: **Eagle Zinc**
SITE LOCATION: **Hillsboro, IL**
JOB NO.: **21-7400E**
LOGGED BY: **J. Fraser, C. Greco**
DATES DRILLED: **07/15/02**

DRILLING CO.: **Philips**
RIG TYPE: **Direct Push**
METHOD OF DRILLING: **Geoprobe**
SAMPLING METHODS: **Macrosampler**
HAMMER WT./DROP --

SURVEY LOCATION: E 694267.8 N 908069

GROUND SURFACE ELEVATION: 615.14'

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| | | | | | | | | |



ENVIRON

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GEOLOGIC DRILL LOG

BOREHOLE NO.: A1-17

TOTAL DEPTH: 8 feet

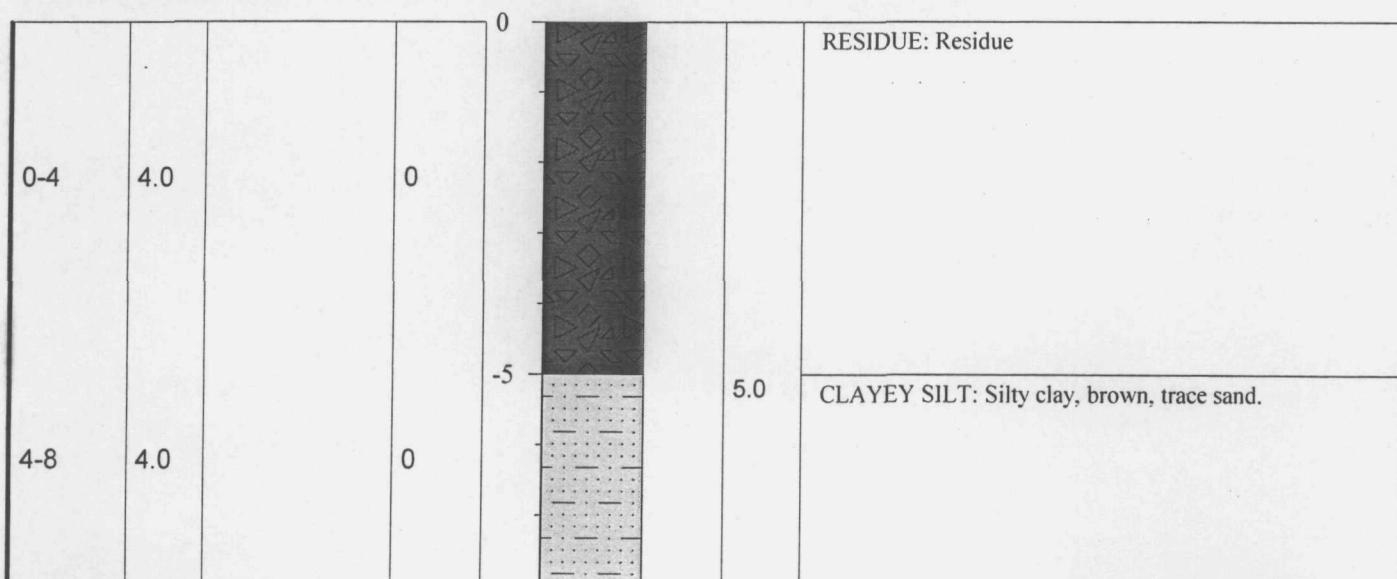
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 07/15/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E 696094 N 908157.4

GROUND SURFACE ELEVATION: 625.28'

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|---|
| 0-4 | 4.0 | | 0 | 0 | | | 0 | RESIDUE: Residue |
| 4-8 | 4.0 | | 0 | -5 | | | 5.0 | CLAYEY SILT: Silty clay, brown, trace sand. |



ENVIRON

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GEOLOGIC DRILL LOG

BOREHOLE NO.: A1-18
TOTAL DEPTH: 28 feet

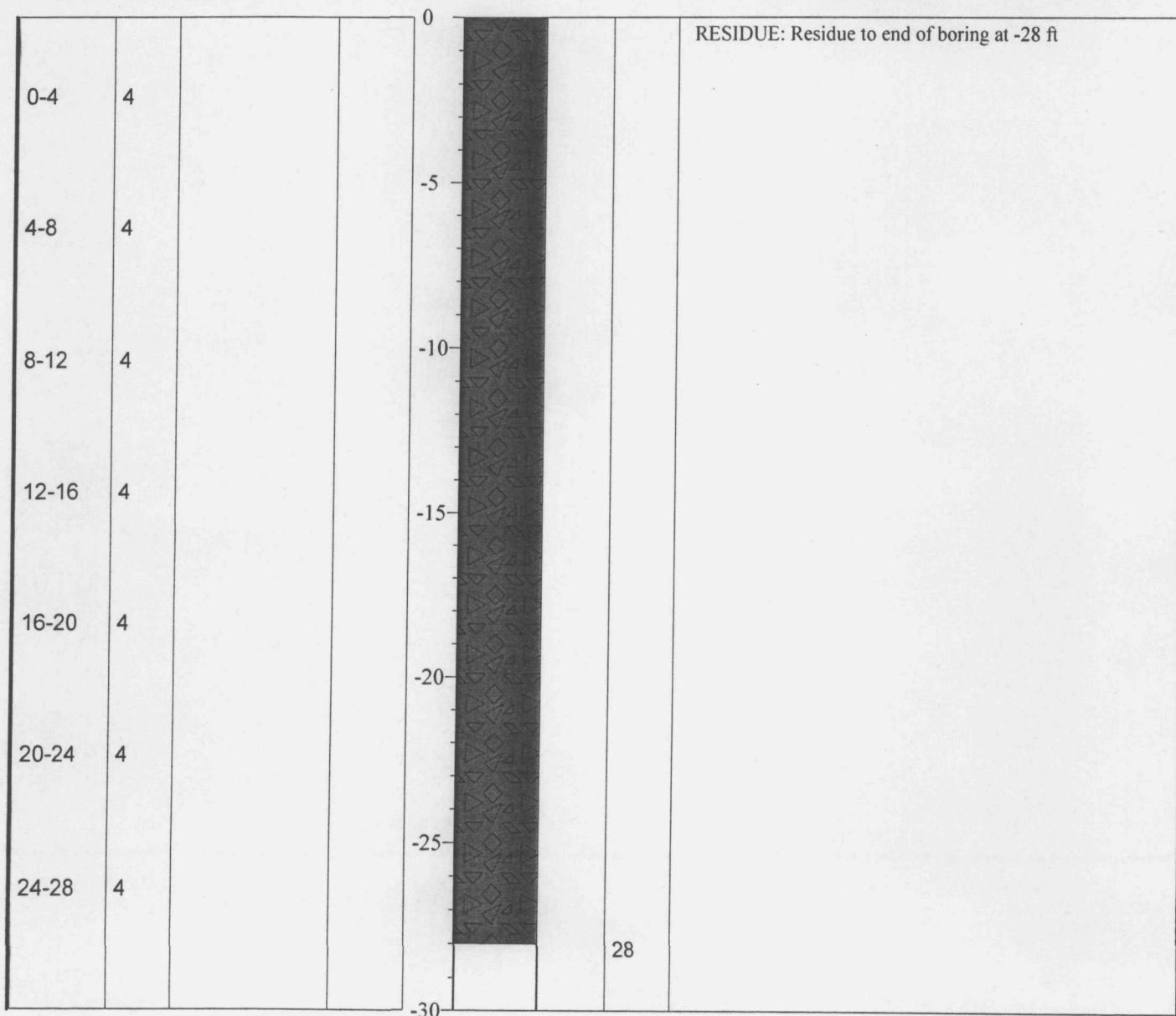
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/15/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macrosampler
HAMMER WT./DROP --

SURVEY LOCATION: E693981.6 N908071.6

GROUND SURFACE ELEVATION:---

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| | | | | | | | | |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: A1-19

TOTAL DEPTH: 16 feet

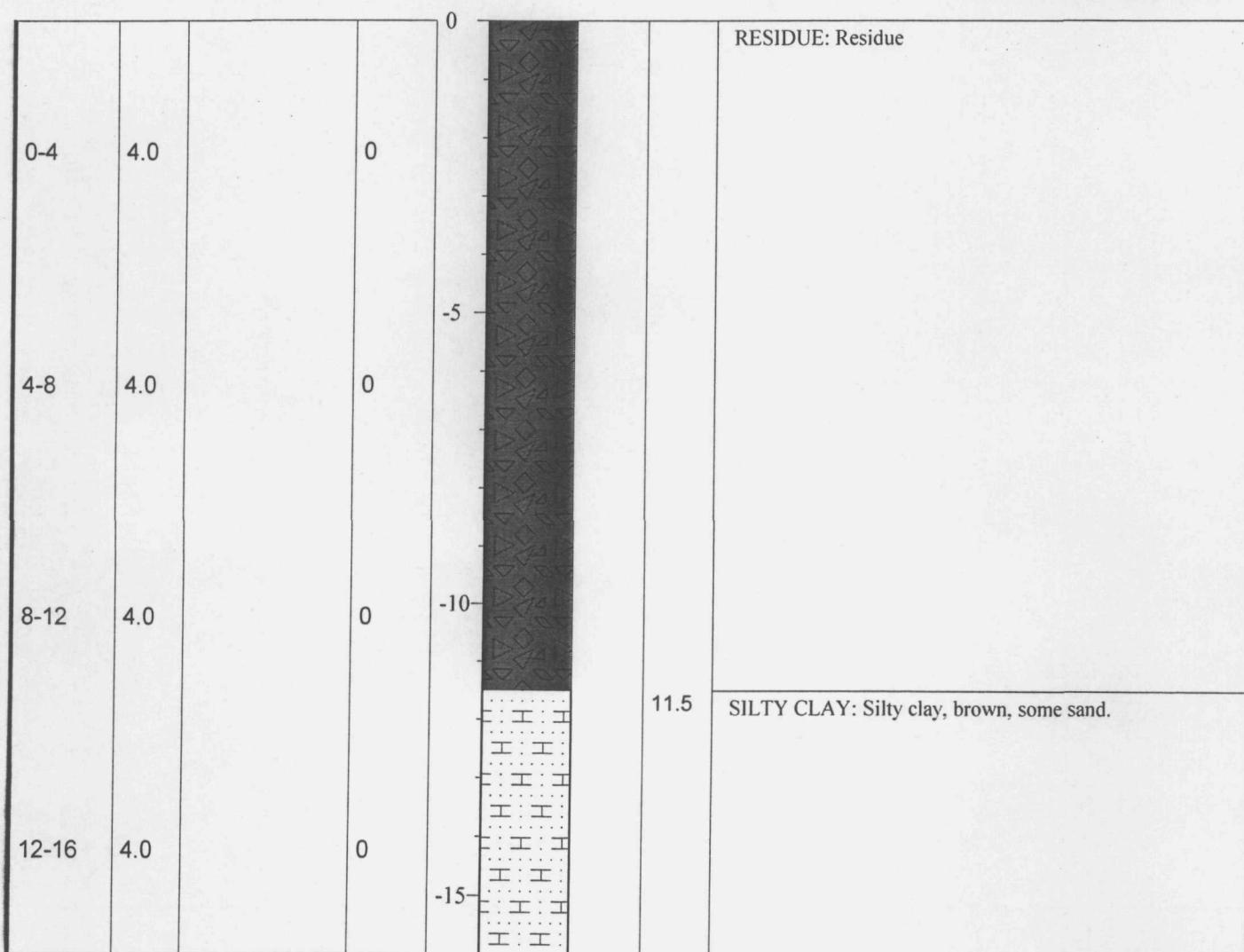
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 07/16/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E 694396.5, N 908039.2

GROUND SURFACE ELEVATION: 618.23'

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| | | | | | | | | |



ENVIRON

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GEOLOGIC DRILL LOG

BOREHOLE NO.: A1-20

TOTAL DEPTH: 4 feet

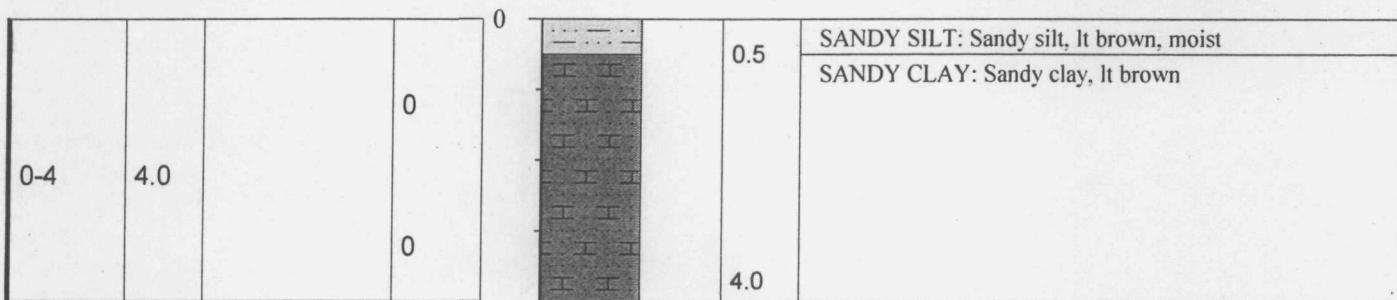
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/15/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macrosampler
HAMMER WT./DROP --

SURVEY LOCATION: E694657.8 N908009

GROUND SURFACE ELEVATION: 611.39

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0-4 | 4.0 | | 0 | 0 | | | | |



ENVIRON

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GEOLOGIC DRILL LOG

BOREHOLE NO.: A1-21

TOTAL DEPTH: 24 feet

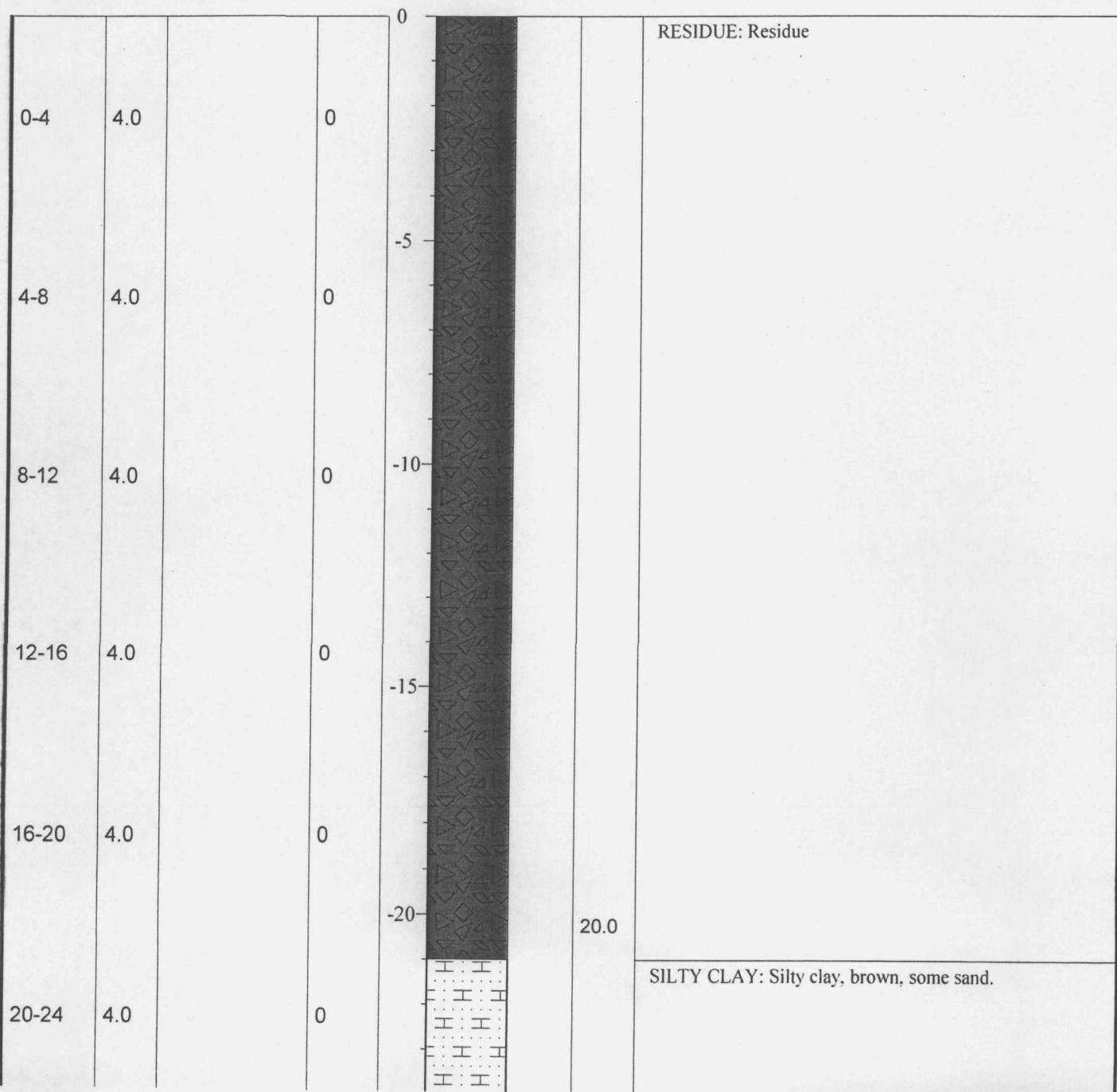
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 07/16/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E 694298.4, N 908040.2

GROUND SURFACE ELEVATION: 611.47'

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| | | | | | | | | |



ENVIRON

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GEOLOGIC DRILL LOG

BOREHOLE NO.: A1-22

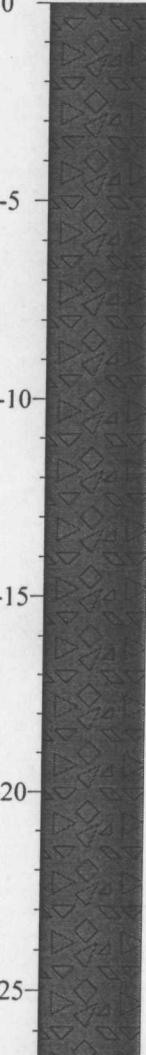
TOTAL DEPTH: 28 feet

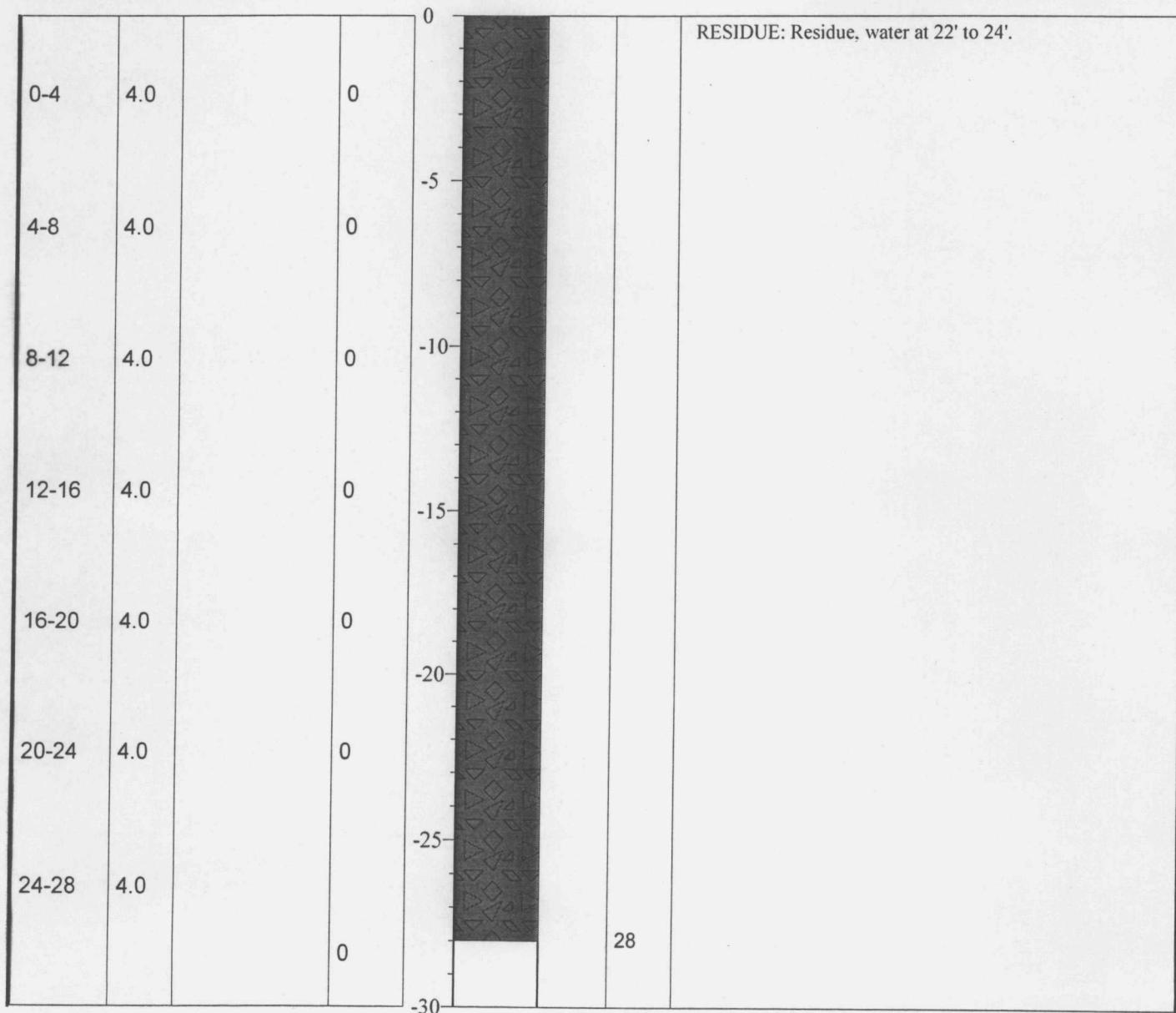
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 07/16/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E694207.8 N908009

GROUND SURFACE ELEVATION: 616.29

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|--|------|------------------|--|
| 0-4 | 4.0 | | 0 | -0 |  | | | RESIDUE: Residue, water at 22' to 24'. |



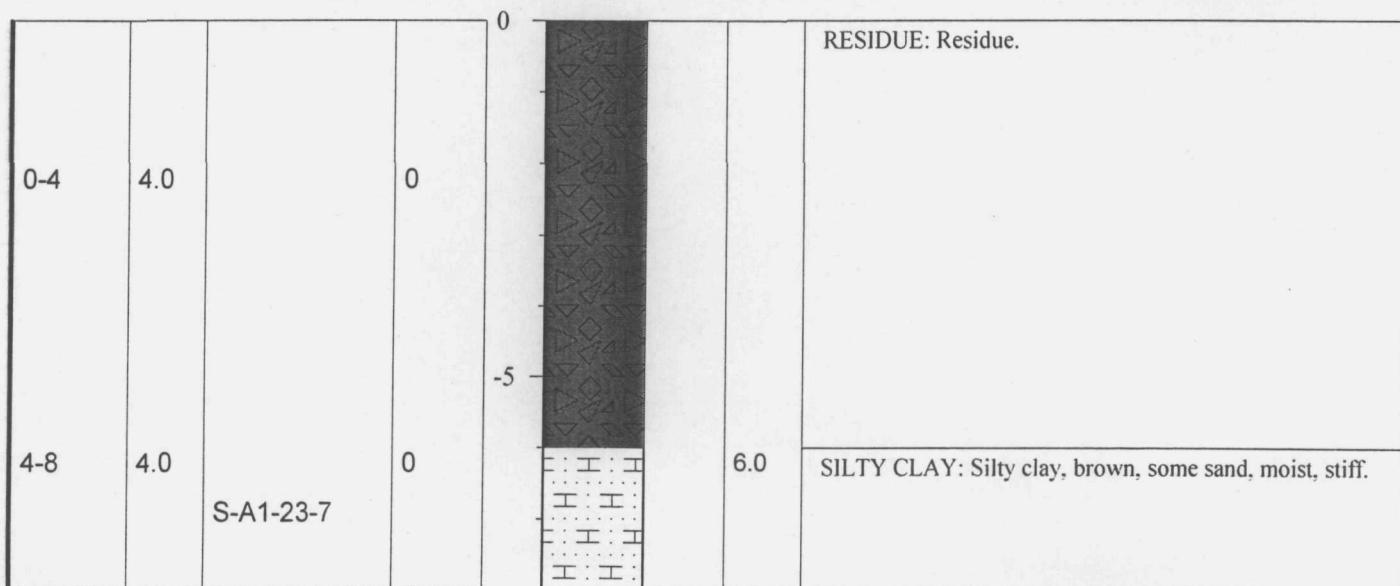
ENVIRON740 Waukegan Rd., Suite 401
Deerfield, Illinois 60015**GEOLOGIC DRILL LOG****BOREHOLE NO.: A1-23****TOTAL DEPTH: 8 feet**

PROJECT: **Eagle Zinc**
SITE LOCATION: **Hillsboro, IL**
JOB NO.: **21-7400E**
LOGGED BY: **J. Fraser, C. Greco**
DATES DRILLED: **07/16/02**

DRILLING CO.: **Philips**
RIG TYPE: **Direct Push**
METHOD OF DRILLING: **Geoprobe**
SAMPLING METHODS: **Macro-core Sampler**
HAMMER WT./DROP **--**

SURVEY LOCATION: E 694035, N 908058.4**GROUND SURFACE ELEVATION: 607.29'**

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|---|
| 0-4 | 4.0 | | 0 | 0 | | | | |
| 4-8 | 4.0 | S-A1-23-7 | 0 | -5 | | | 6.0 | SILTY CLAY: Silty clay, brown, some sand, moist, stiff. |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: A1-24

TOTAL DEPTH: 12 feet

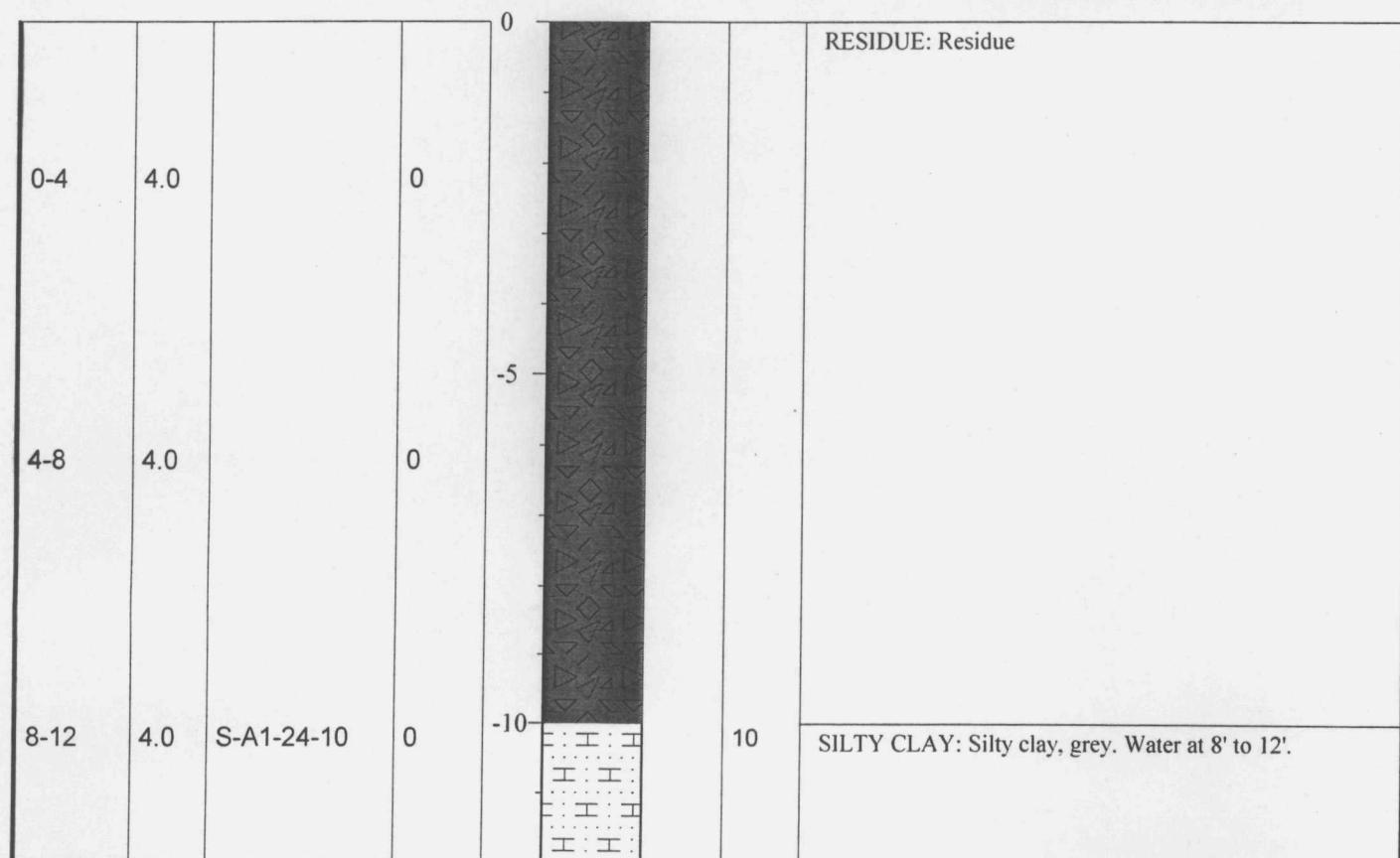
PROJECT: **Eagle Zinc**
SITE LOCATION: **Hillsboro, IL**
JOB NO.: **21-7400E**
LOGGED BY: **J. Fraser, C. Greco**
DATES DRILLED: **07/16/02**

DRILLING CO.: **Philips**
RIG TYPE: **Direct Push**
METHOD OF DRILLING: **Geoprobe**
SAMPLING METHODS: **Macro-core Sampler**
HAMMER WT./DROP **--**

SURVEY LOCATION: E 694507.8, N 907979

GROUND SURFACE ELEVATION: 606.79'

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|------------|-----------|------------|-------------|------|------------------|---|
| 0-4 | 4.0 | | 0 | 0 | | | 0 | RESIDUE: Residue |
| 4-8 | 4.0 | | 0 | -5 | | | 10 | |
| 8-12 | 4.0 | S-A1-24-10 | 0 | -10 | | | | SILTY CLAY: Silty clay, grey. Water at 8' to 12'. |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: A1-25

TOTAL DEPTH: 4 feet

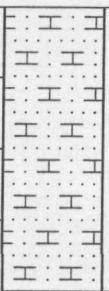
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 07/16/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E 694760.7, N908248.3

GROUND SURFACE ELEVATION: 616.38'

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|

| | | | | | | | | |
|-----|-----|--|---|---|--|--|--|--|
| 0-4 | 4.0 | | 0 | 0 |  | | | SILTY CLAY: Silty Clay, brown with orange-brown mottling, moist, stiff, some sand. |
|-----|-----|--|---|---|--|--|--|--|

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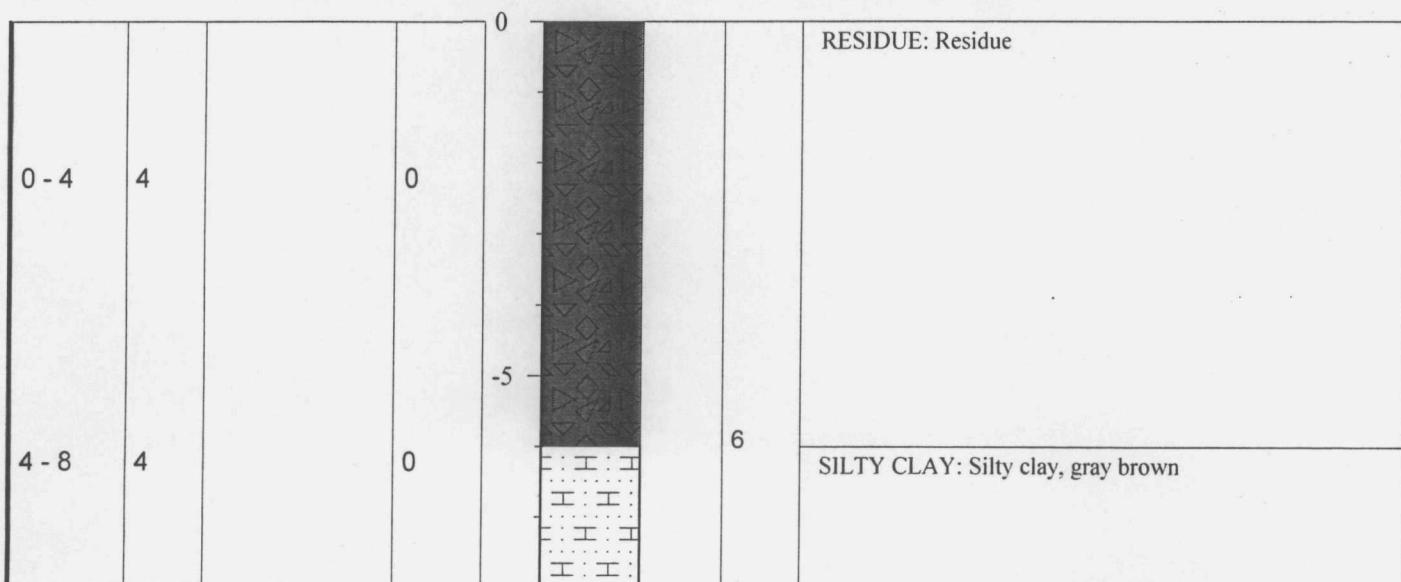
GEOLOGIC DRILL LOGBOREHOLE NO.: **A2-1**TOTAL DEPTH: **8 feet**

PROJECT: **Eagle Zinc**
SITE LOCATION: **Hillsboro, IL**
JOB NO.: **21-7400E**
LOGGED BY: **J. Fraser, C. Greco**
DATES DRILLED: **7/18/02**

DRILLING CO.: **Philips**
RIG TYPE: **Direct Push**
METHOD OF DRILLING: **Geoprobe**
SAMPLING METHODS: **Macro-core Sampler**
HAMMER WT./DROP **--**

SURVEY LOCATION: **E 695284 N 908307.4**GROUND SURFACE ELEVATION: **628.69**

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|-----------------------|------------------|------------------------------------|
| 0 - 4 | 4 | | 0 | 0 | | | | RESIDUE: Residue |
| 4 - 8 | 4 | | 0 | -5 | | H : H : H : H : H : H | 6 | SILTY CLAY: Silty clay, gray brown |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: A2-2

TOTAL DEPTH: 4 feet

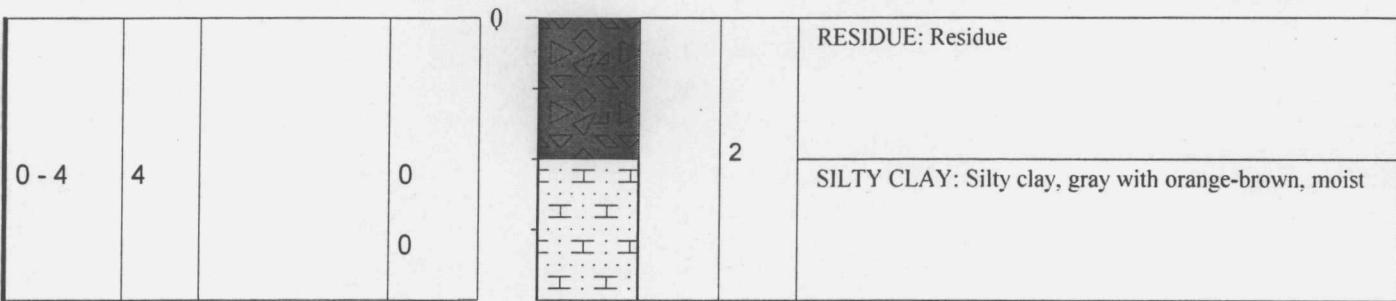
PROJECT: **Eagle Zinc**
SITE LOCATION: **Hillsboro, IL**
JOB NO.: **21-7400E**
LOGGED BY: **J. Fraser, C. Greco**
DATES DRILLED: **7/18/02**

DRILLING CO.: **Philips**
RIG TYPE: **Direct Push**
METHOD OF DRILLING: **Geoprobe**
SAMPLING METHODS: **Macro-core Sampler**
HAMMER WT./DROP --

SURVEY LOCATION: **E 695584 N 908307.4**

GROUND SURFACE ELEVATION: **629.92**

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|---|
| 0 - 4 | 4 | | 0 0 | 0 | HHHHHHHH | | 0 - 2 | RESIDUE: Residue SILTY CLAY: Silty clay, gray with orange-brown, moist |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: A2-3

TOTAL DEPTH: 4 feet

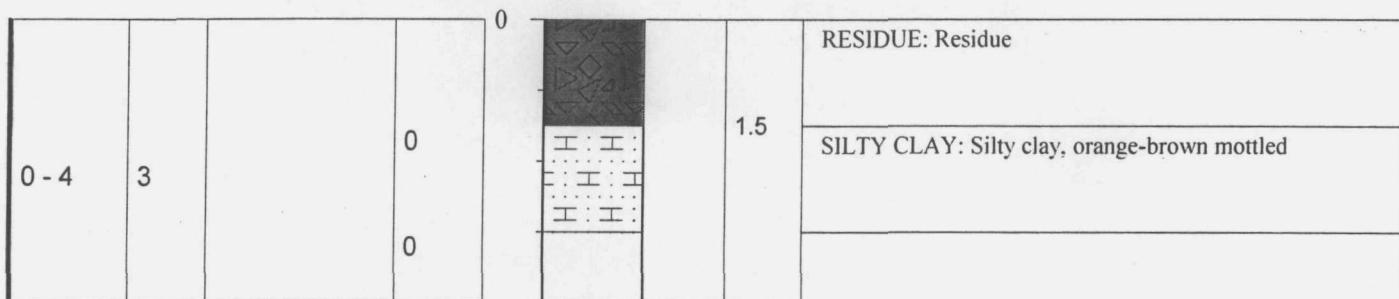
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/18/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E 695704 N 908307.4

GROUND SURFACE ELEVATION: 631.11

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0 - 4 | 3 | | 0 | 0 | | | | |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: A2-4

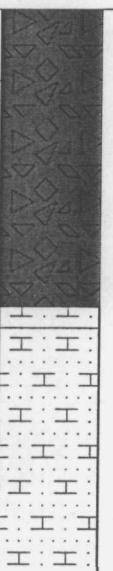
TOTAL DEPTH: 8 feet

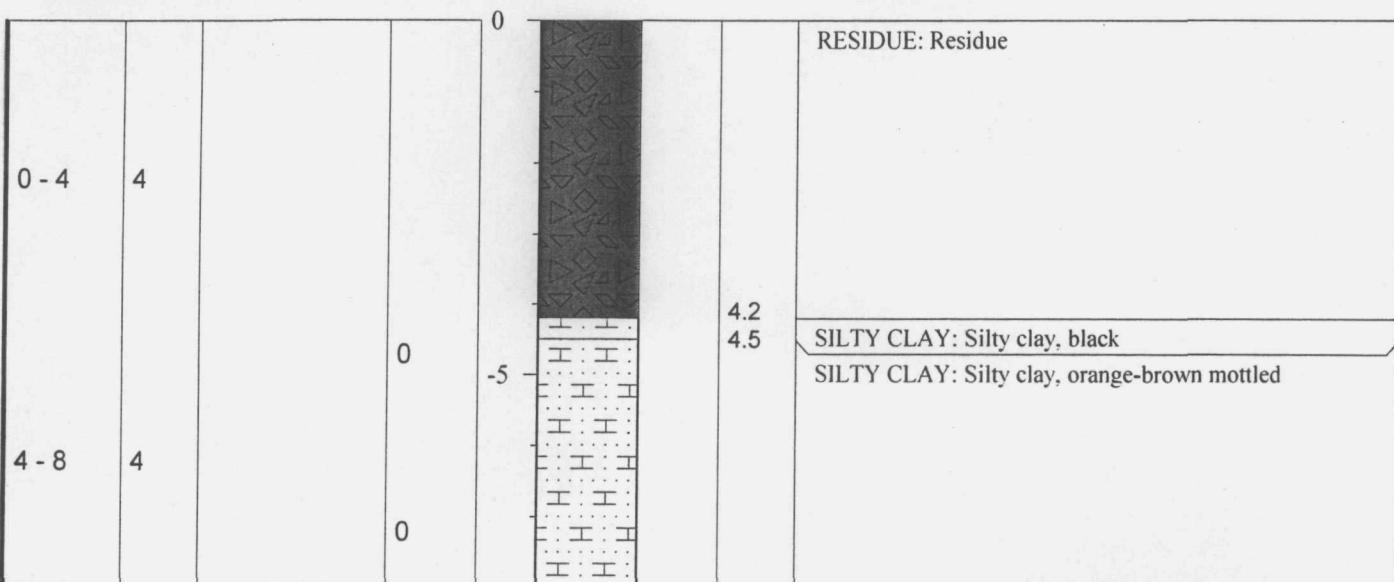
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/18/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E 695824 N908307.4

GROUND SURFACE ELEVATION: 631.41

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|--|------|------------------|---|
| 0 - 4 | 4 | | 0 | -5 |  | | 4.2 4.5 | RESIDUE: Residue |
| 4 - 8 | 4 | | 0 | | | | | SILTY CLAY: Silty clay, black SILTY CLAY: Silty clay, orange-brown mottled |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: A2-5

TOTAL DEPTH: 8 feet

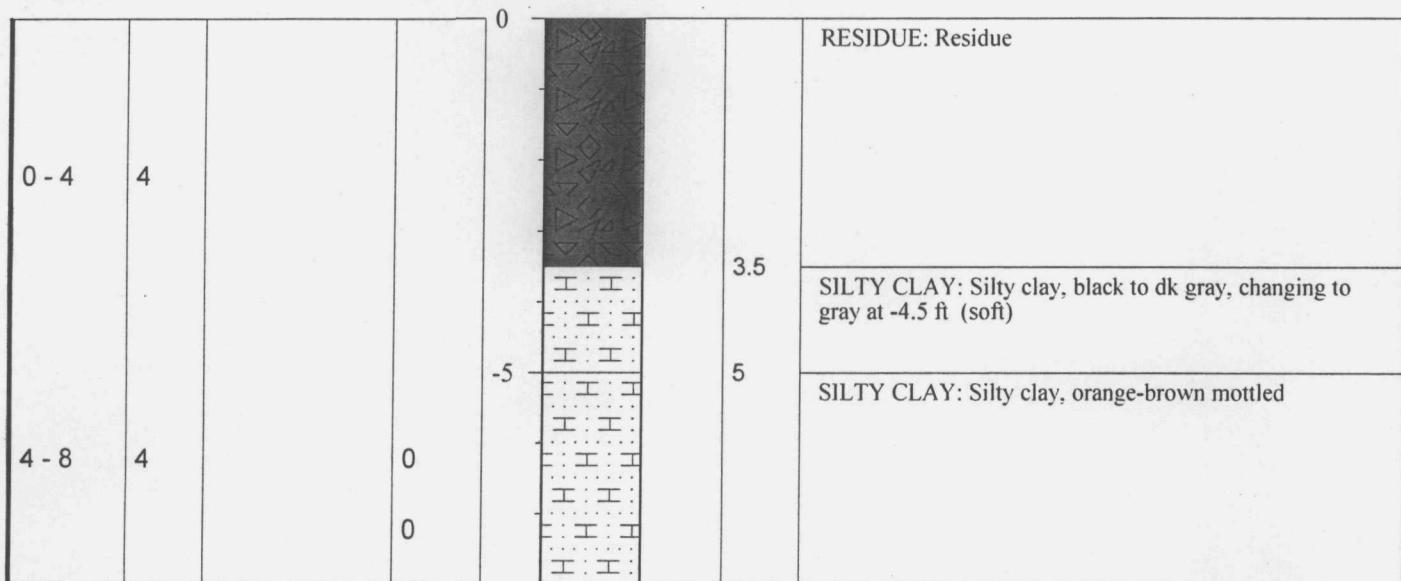
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/18/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E 695374 N908307.4

GROUND SURFACE ELEVATION: 629.22

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0 - 4 | 4 | | | 0 | | | 0 - 3.5 | RESIDUE: Residue |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: A2-6

TOTAL DEPTH: 4 feet

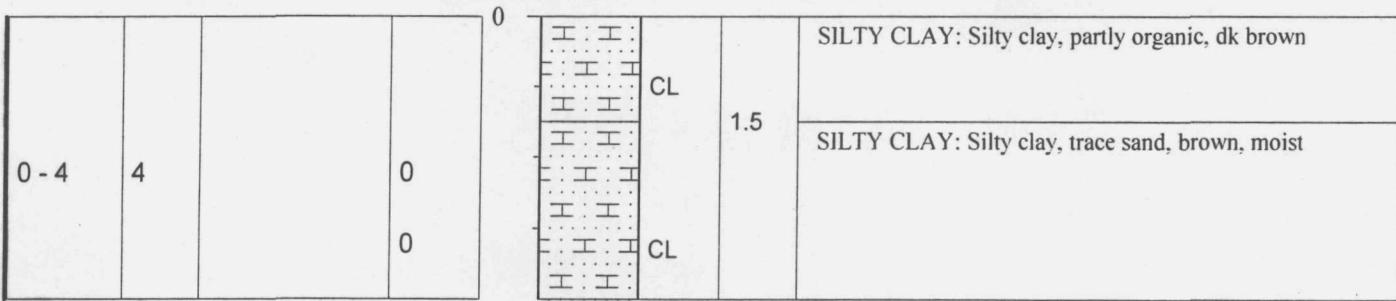
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/18/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E 696179.3 N 908307.9

GROUND SURFACE ELEVATION: 627.56

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0 - 4 | 4 | | 0 | 0 | | | | |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: A2-7

TOTAL DEPTH: 4 feet

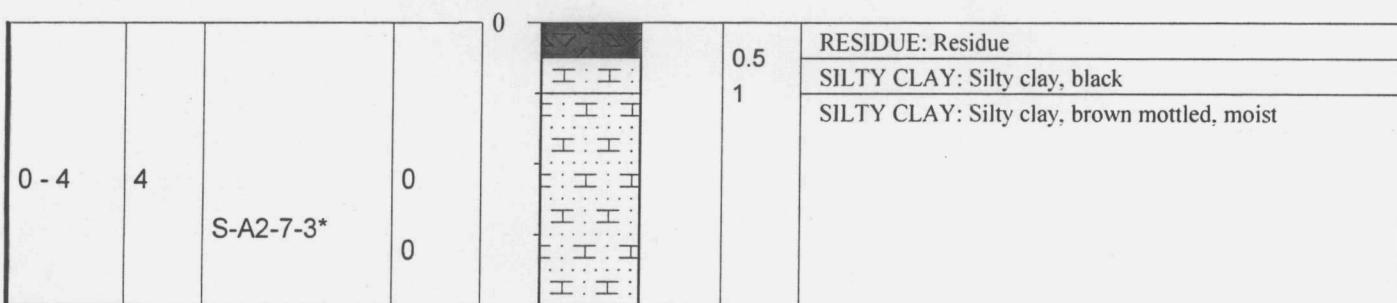
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/18/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E 696304 N 908277.4

GROUND SURFACE ELEVATION: 623.85

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0 - 4 | 4 | S-A2-7-3* | 0 | 0 | | | | |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: A2-8

TOTAL DEPTH: 8 feet

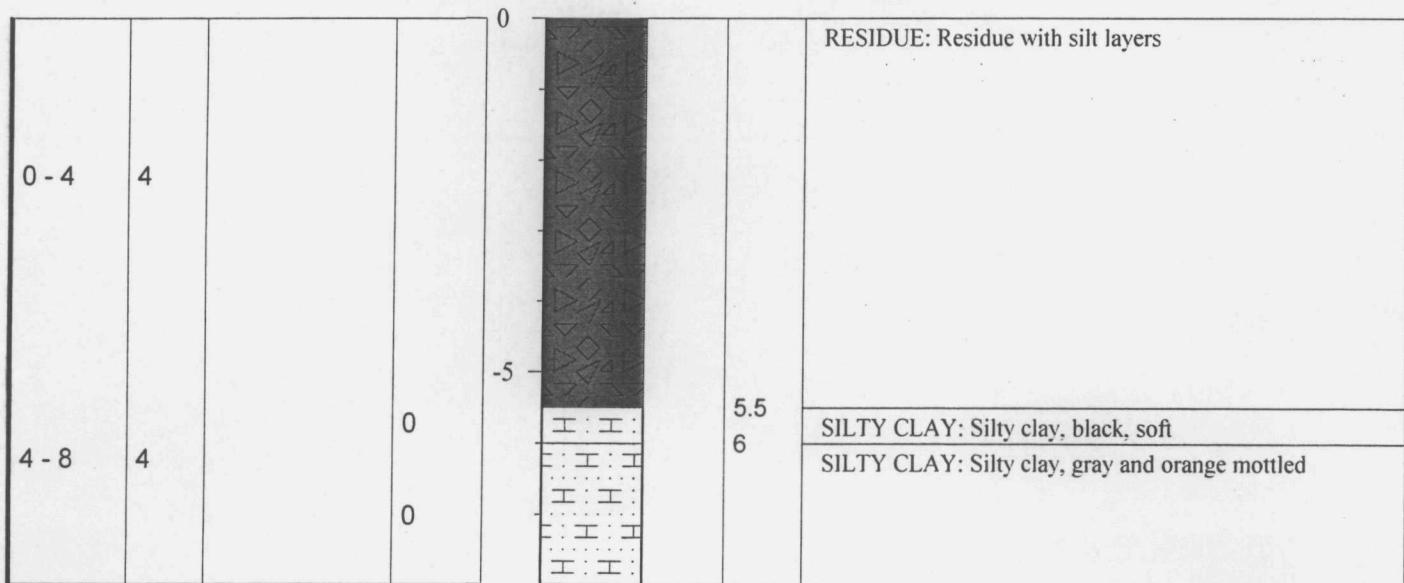
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/18/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E 695164 N 908247.4

GROUND SURFACE ELEVATION: 628.68

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|--|------|------------------|-----------------------------------|
| 0 - 4 | 4 | | 0 | -5 |  | | 0 - 5.5 | RESIDUE: Residue with silt layers |



ENVIRON

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GEOLOGIC DRILL LOG

BOREHOLE NO.: A2-9

TOTAL DEPTH: 4 feet

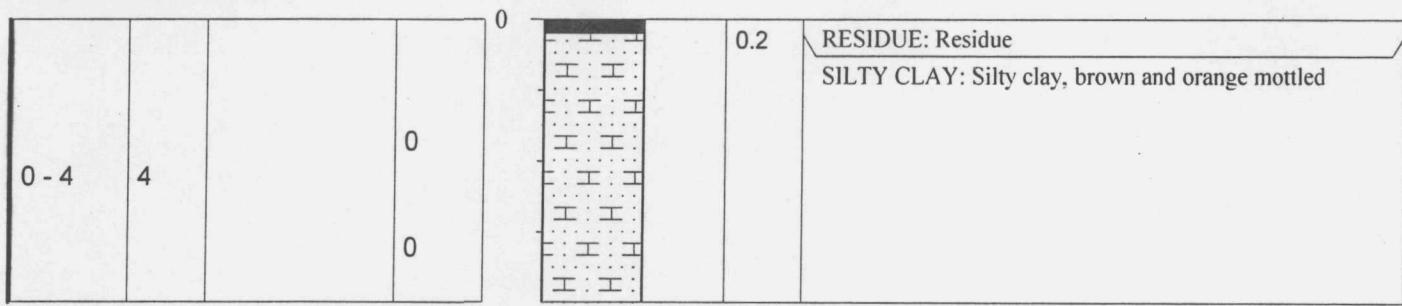
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/18/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E 695494 N 908217.4

GROUND SURFACE ELEVATION: 626.61

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0 - 4 | 4 | | 0 | 0 | | | | |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: A2-10

TOTAL DEPTH: 4 feet

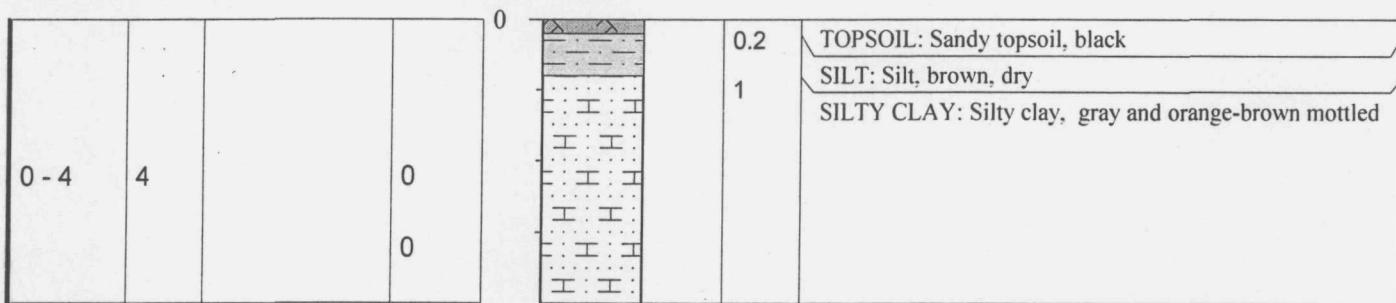
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/18/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E 695644 N 908217.4

GROUND SURFACE ELEVATION: 629.1

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0 - 4 | 4 | | 0 | 0 | | | | |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: A2-11

TOTAL DEPTH: 4 feet

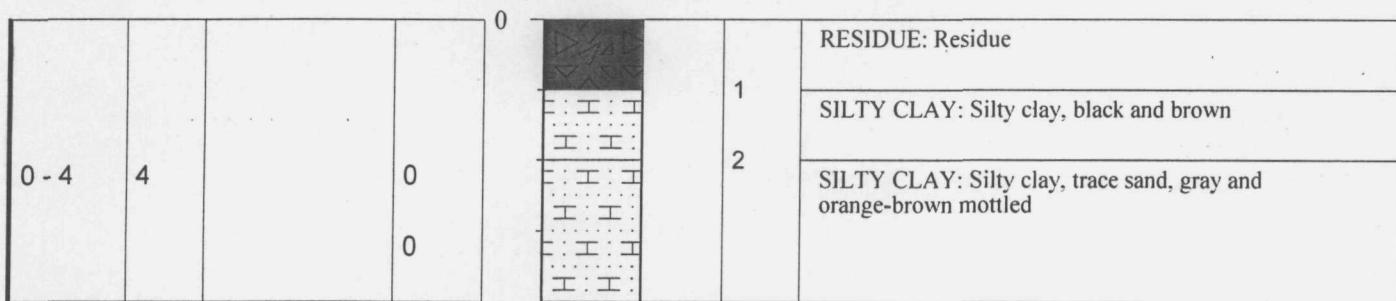
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/18/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E 695704 N 908217.4

GROUND SURFACE ELEVATION: 630.41

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0 - 4 | 4 | | 0 | 0 | | | | |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: A2-12

TOTAL DEPTH: 4 feet

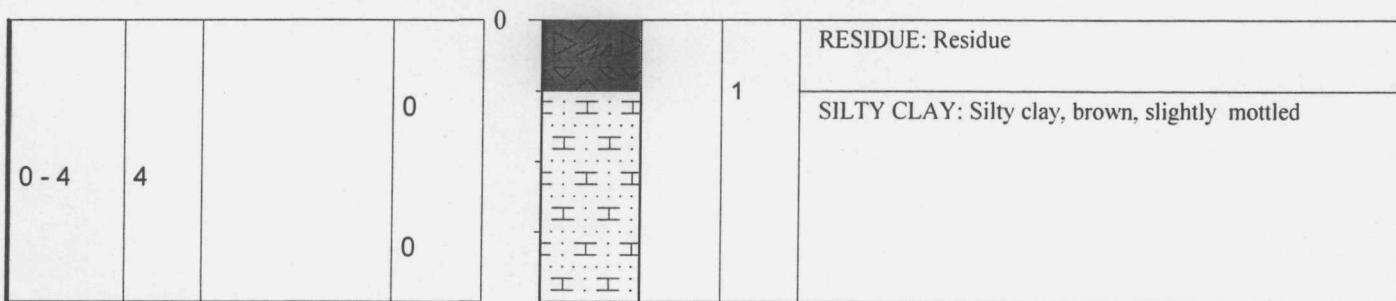
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/18/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E 696064 N 908217.4

GROUND SURFACE ELEVATION: 624.7

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0 - 4 | 4 | | 0 | 0 | | | | |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: A2-13

TOTAL DEPTH: 4 feet

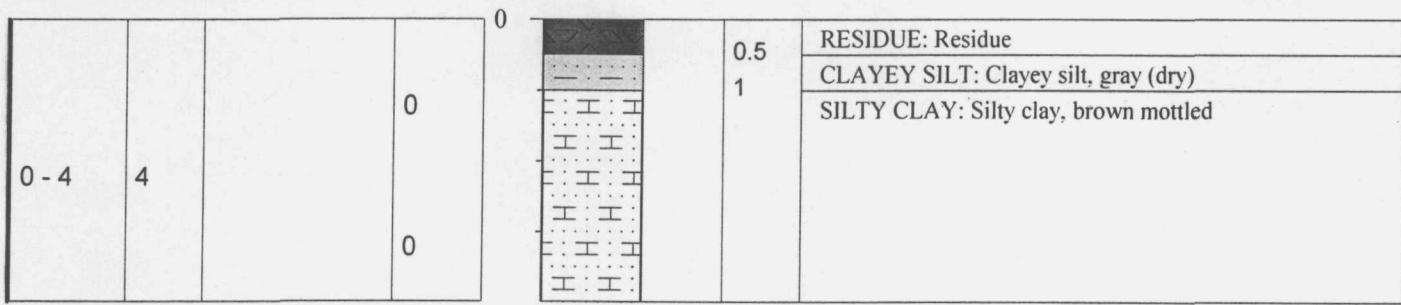
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/18/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E 695944 N 908187.4

GROUND SURFACE ELEVATION: 625.69

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0 - 4 | 4 | | 0 | 0 | | | | |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: A2-14

TOTAL DEPTH: 8 feet

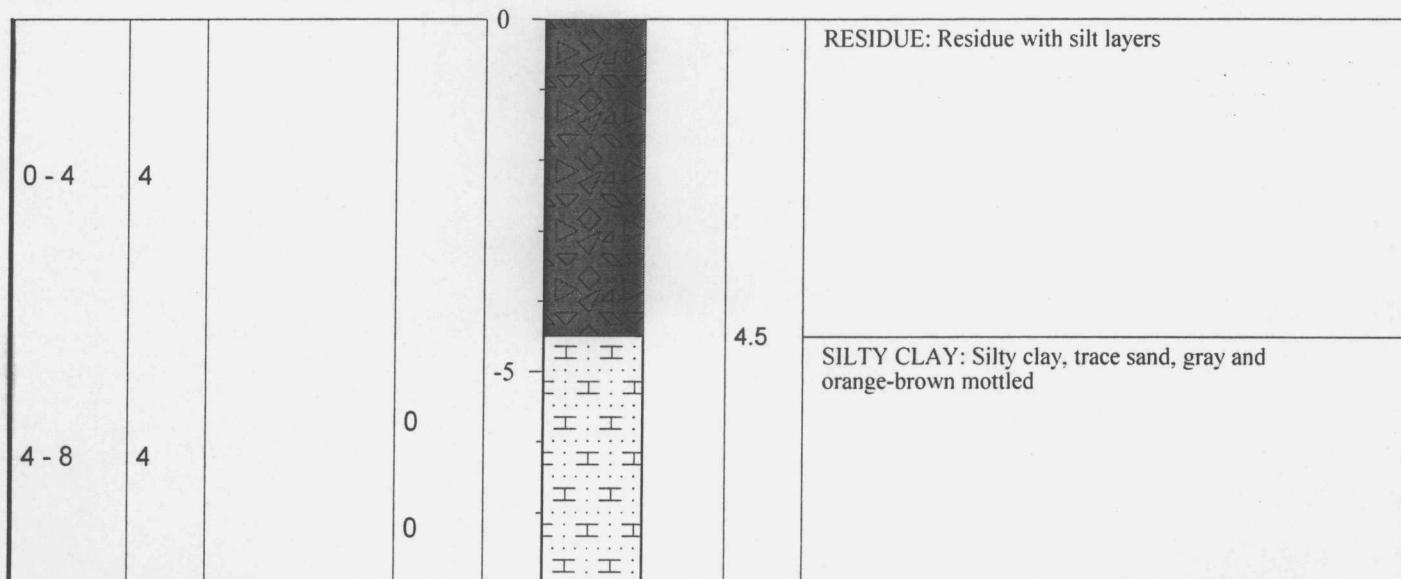
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/18/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E 695944 N 908157.4

GROUND SURFACE ELEVATION: 625.21

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|-----------------------------------|
| 0 - 4 | 4 | | | 0 | 0 | | 4.5 | RESIDUE: Residue with silt layers |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: A2-15

TOTAL DEPTH: 4 feet

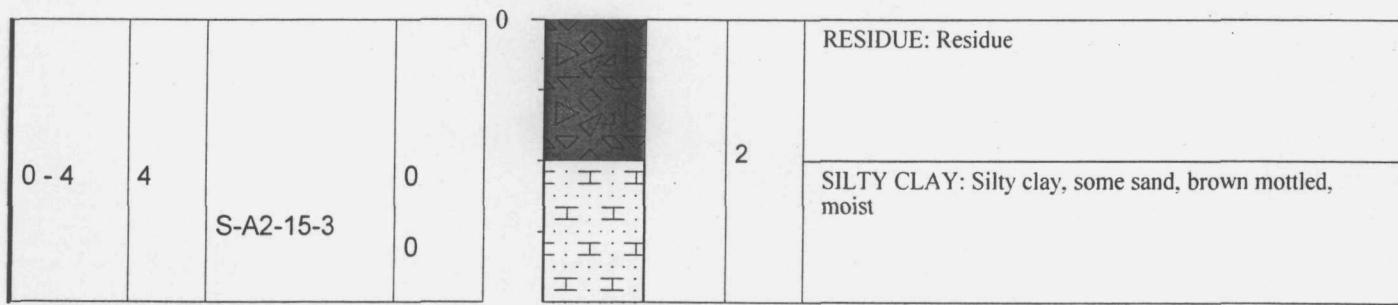
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/18/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E 695404 N908157.4

GROUND SURFACE ELEVATION: 626.07

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0 - 4 | 4 | S-A2-15-3 | 0 | 0 | | | | |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: A2-16

TOTAL DEPTH: 4 feet

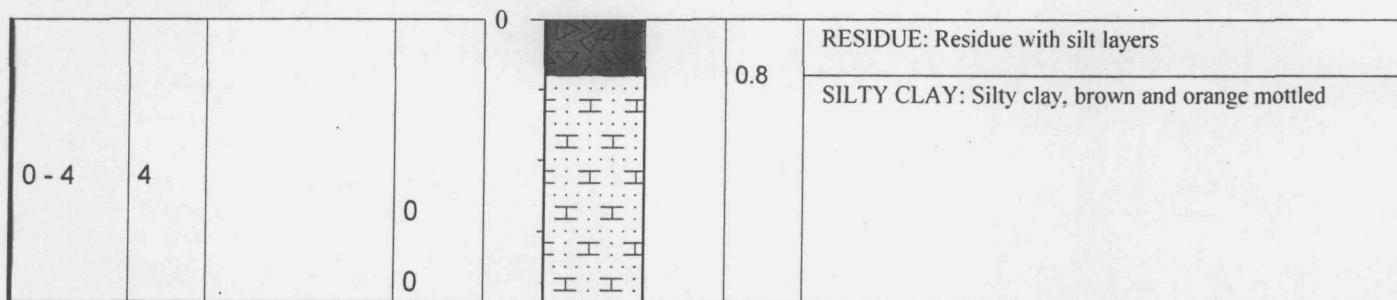
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/18/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E 695584 N 908178.4

GROUND SURFACE ELEVATION: 631.23

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0 - 4 | 4 | | 0 | 0 | | | | |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: A2-17

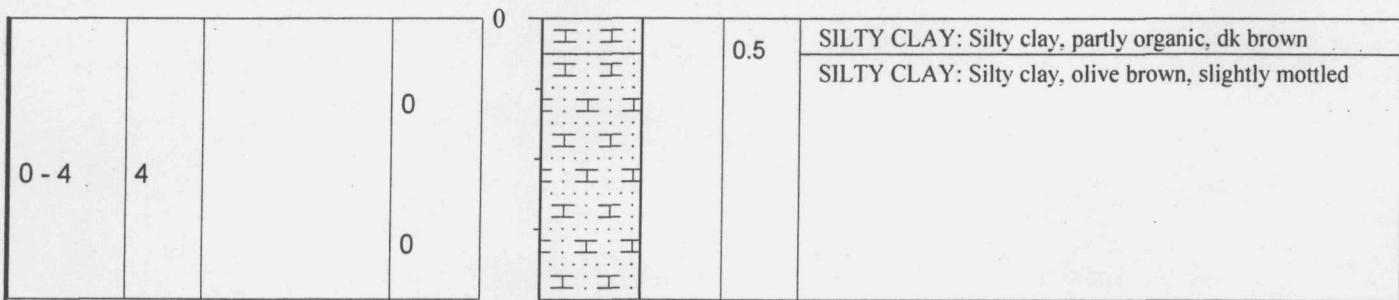
TOTAL DEPTH: 4 feet

PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/18/02

DRILLING CO.: Philips
 RIG TYPE: Direct Push
 METHOD OF DRILLING: Geoprobe
 SAMPLING METHODS: Macro-core Sampler
 HAMMER WT./DROP -- -

SURVEY LOCATION: E 696094 N908157.4

GROUND SURFACE ELEVATION:625.28



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GEOLOGIC DRILL LOG

BOREHOLE NO.: A2-18

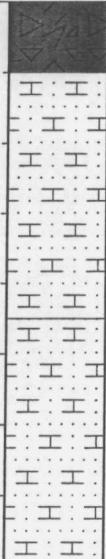
TOTAL DEPTH: 8 feet

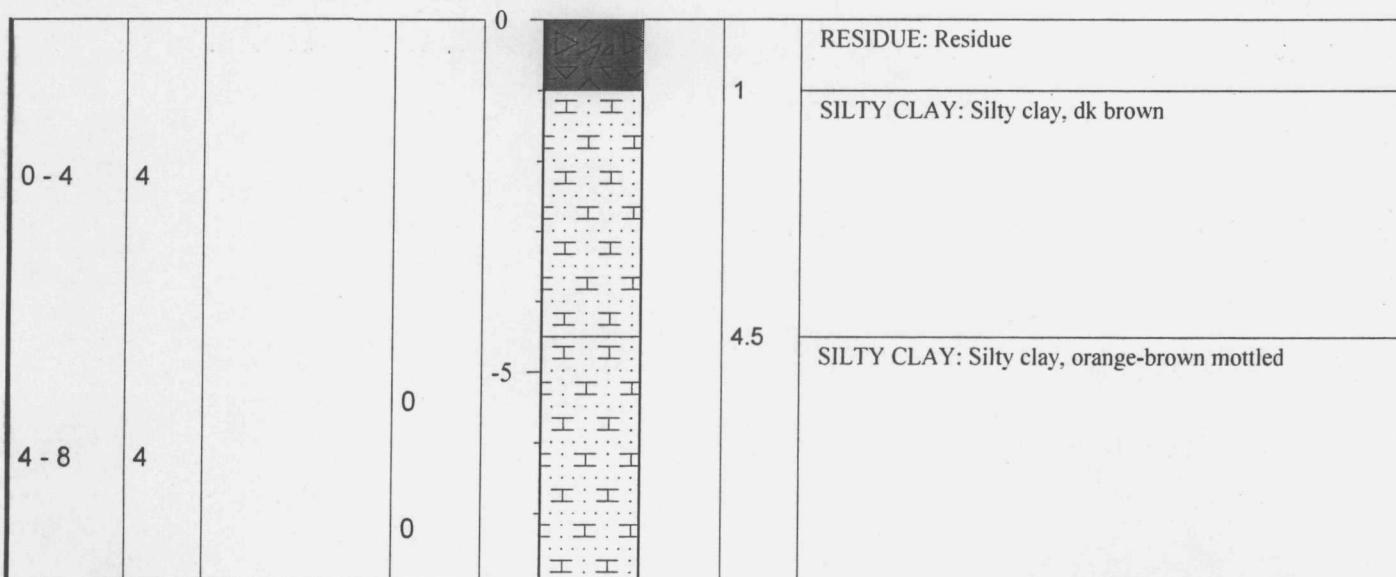
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/18/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E 695254 N 908127.4

GROUND SURFACE ELEVATION: 623.18

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|--|------|------------------|------------------|
| 0 - 4 | 4 | | | 0 |  | | 1 | RESIDUE: Residue |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: A2-19

TOTAL DEPTH: 4 feet

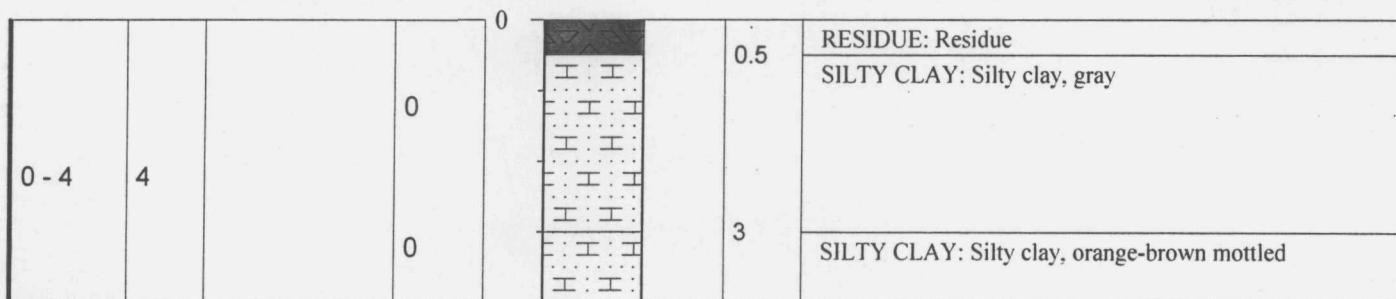
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/18/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E 695164 N 908097.4

GROUND SURFACE ELEVATION: 623.91

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0 - 4 | 4 | | 0 | 0 | | | | |



ENVIRON740 Waukegan Rd., Suite 401
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BOREHOLE NO.: A2-20

TOTAL DEPTH: 4 feet

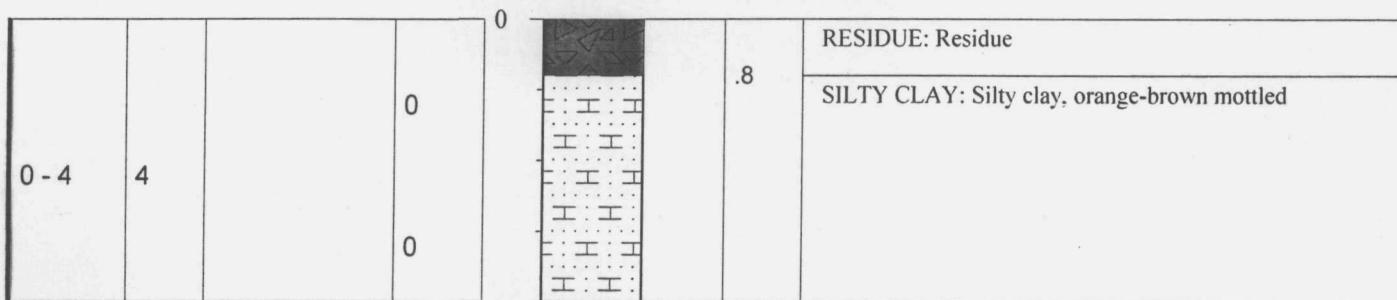
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/18/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E 695830.9 N908163

GROUND SURFACE ELEVATION: 629.14

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0 - 4 | 4 | | 0 | 0 | | | | |



ENVIRON

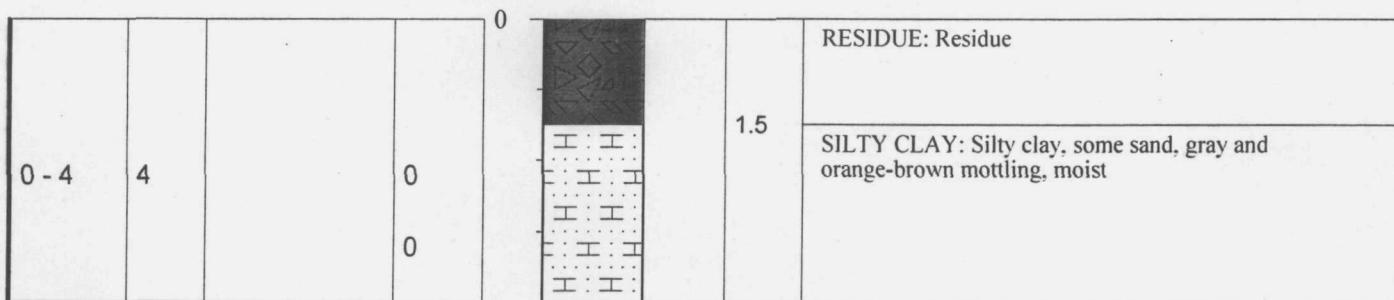
740 Waukegan Rd., Suite 401
Deerfield, Illinois 60015

GEOLOGIC DRILL LOG

BOREHOLE NO.: A2-21

TOTAL DEPTH: 4 feet

| PROJECT: SITE LOCATION: JOB NO.: LOGGED BY: DATES DRILLED: | Eagle Zinc Hillsboro, IL 21-7400E J. Fraser, C. Greco 7/18/02 | DRILLING CO.: RIG TYPE: METHOD OF DRILLING: SAMPLING METHODS: HAMMER WT./DROP | Philips Direct Push Geoprobe Macro-core Sampler -- | | | | | |
|--|--|---|---|------------|-------------|------|------------------|------------------|
| SURVEY LOCATION: E 695434 N 908067.4 | | GROUND SURFACE ELEVATION:625.18 | | | | | | |
| SSS INTERVAL (ft) | SSS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: A2-22

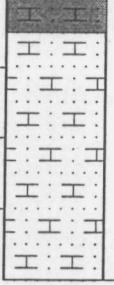
TOTAL DEPTH: 4 feet

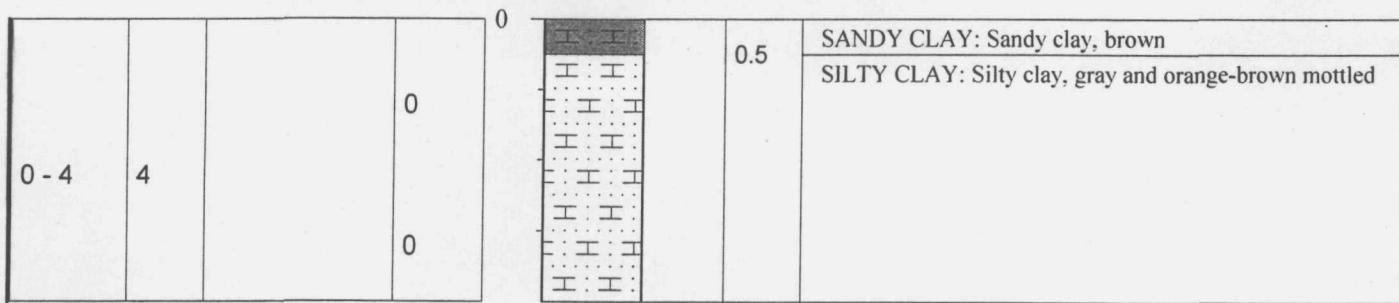
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/18/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E 695524 N 908081.7

GROUND SURFACE ELEVATION: 624.3

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|--|------|------------------|--|
| 0 - 4 | 4 | | 0 | 0 |  | | 0.5 | SANDY CLAY: Sandy clay, brown SILTY CLAY: Silty clay, gray and orange-brown mottled |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: A2-23

TOTAL DEPTH: 4 feet

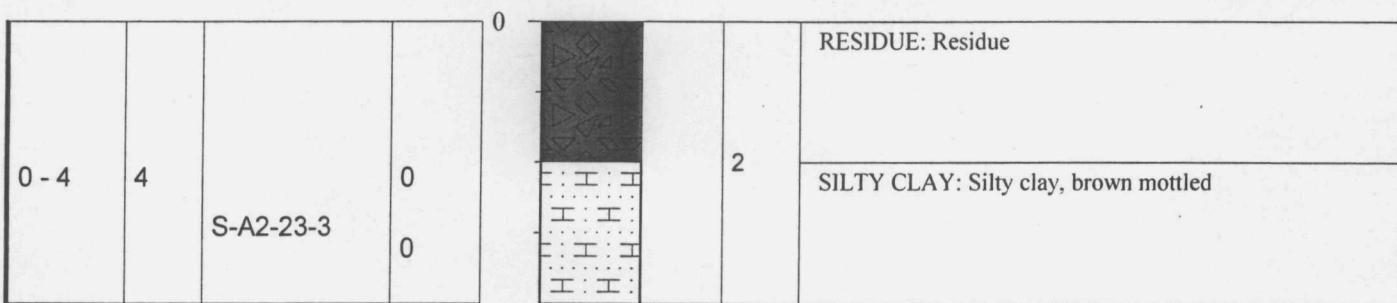
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/18/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E 695194 N 908007.4

GROUND SURFACE ELEVATION: 620.81

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0 - 4 | 4 | S-A2-23-3 | 0 | 0 | | | | |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: A2-24

TOTAL DEPTH: 4 feet

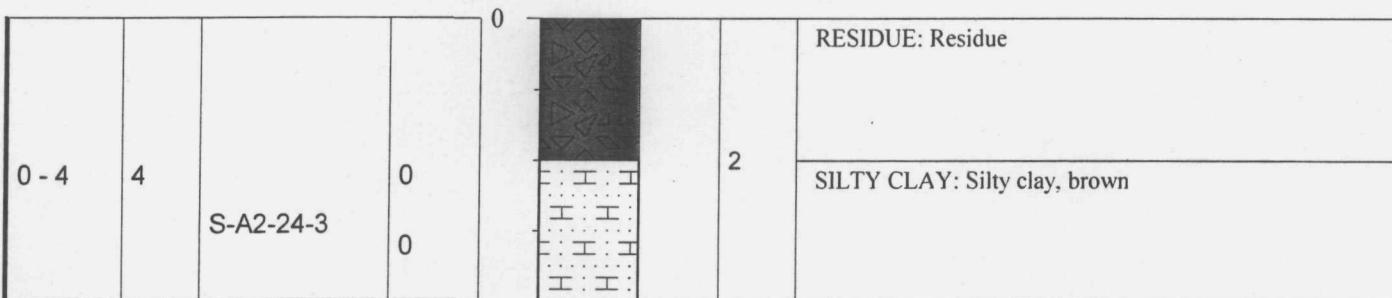
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/18/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E 695254 N 908004.3

GROUND SURFACE ELEVATION: 622.26

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|--|------|------------------|---|
| 0 - 4 | 4 | S-A2-24-3 | 0 0 | 0 |  | | 0 - 2 ft | RESIDUE: Residue SILTY CLAY: Silty clay, brown |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: A2-25

TOTAL DEPTH: 4 feet

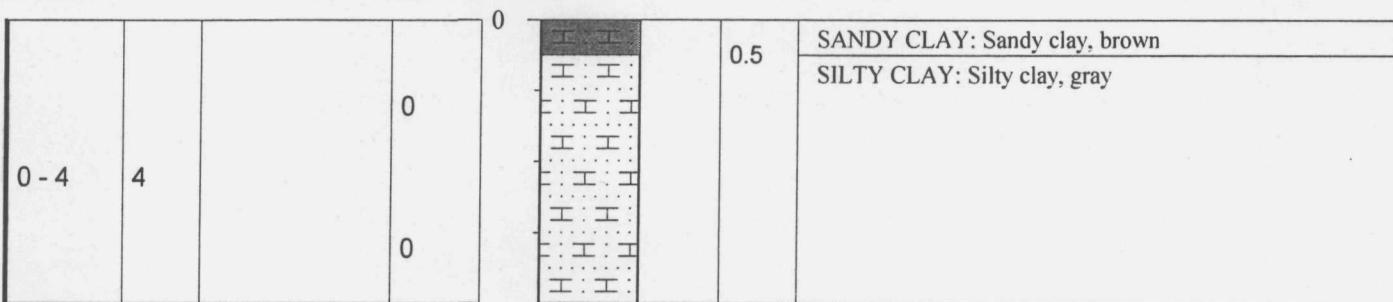
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/18/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E 695345 N 908028.9

GROUND SURFACE ELEVATION: 623.6

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0 - 4 | 4 | | 0 | 0 | | | | |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: A3-1

TOTAL DEPTH: 4 feet

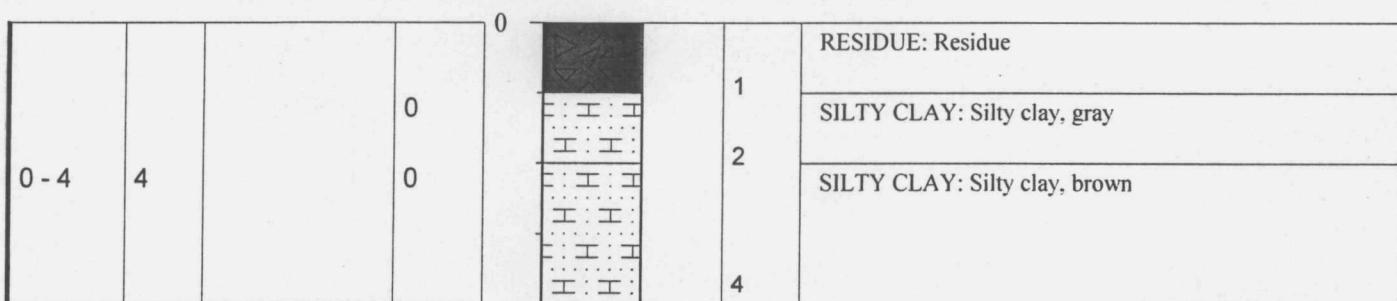
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/19/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E695636.4 N909366.7

GROUND SURFACE ELEVATION: 632.35

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0 - 4 | 4 | | 0 | 0 | | | | |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: A3-2

TOTAL DEPTH: 4 feet

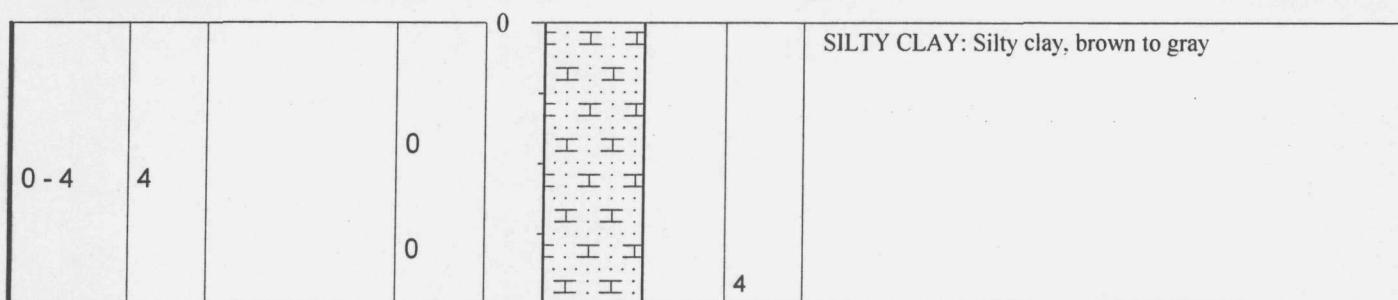
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/18/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP - -

SURVEY LOCATION: E695342.4 N909326.7

GROUND SURFACE ELEVATION:625.65

| SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|-------------------|-------------------|------------|-------------|------|------------------|------------------|
| SSS INTERVAL (ft) | SSS RECOVERY (ft) | | | | | |



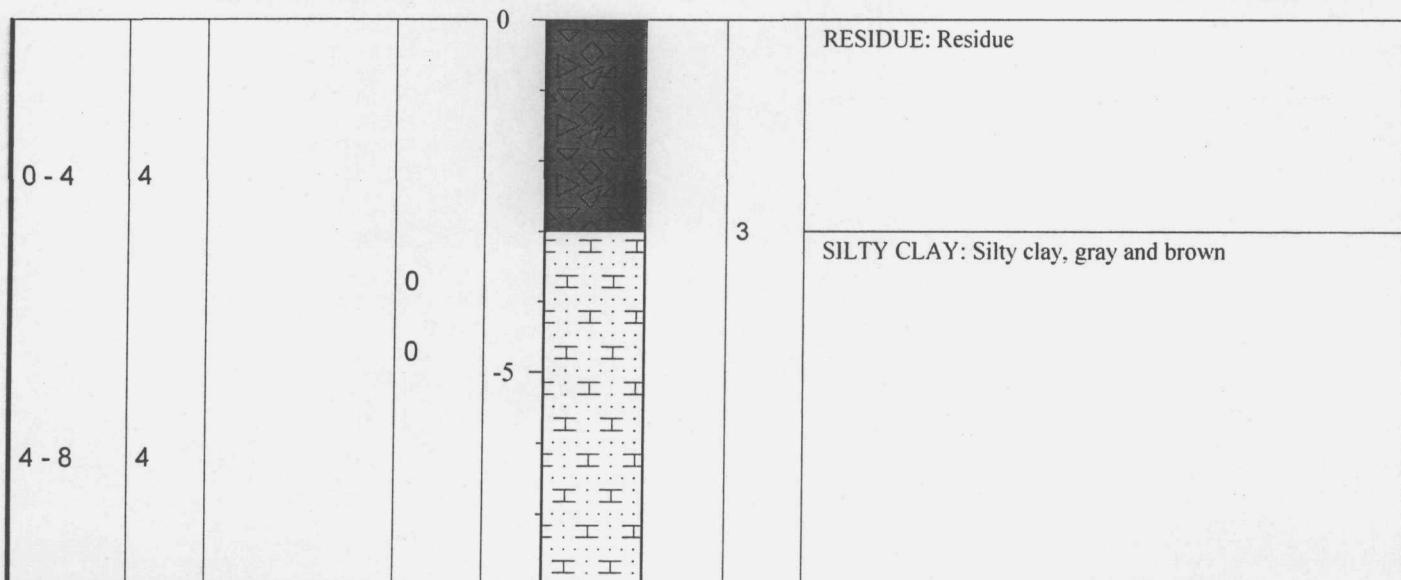
ENVIRON740 Waukegan Rd., Suite 401
Deerfield, Illinois 60015**GEOLOGIC DRILL LOG****BOREHOLE NO.: A3-3****TOTAL DEPTH: 8 feet**

PROJECT: **Eagle Zinc**
SITE LOCATION: **Hillsboro, IL**
JOB NO.: **21-7400E**
LOGGED BY: **J. Fraser, C. Greco**
DATES DRILLED: **7/19/02**

DRILLING CO.: **Philips**
RIG TYPE: **Direct Push**
METHOD OF DRILLING: **Geoprobe**
SAMPLING METHODS: **Macro-core Sampler**
HAMMER WT./DROP --

SURVEY LOCATION: E695546.4 N909326.5**GROUND SURFACE ELEVATION: 631.0**

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|--|
| 0 - 4 | 4 | | 0 | 0 | | | 0 - 3 | RESIDUE: Residue |
| 4 - 8 | 4 | | | | | | -5 | SILTY CLAY: Silty clay, gray and brown |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: A3-4

TOTAL DEPTH: 4 feet

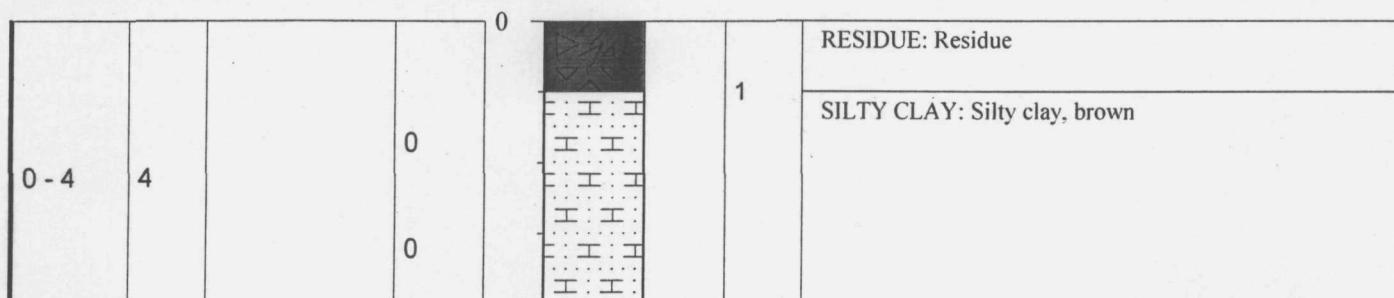
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/18/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E696422.4 N909286.7

GROUND SURFACE ELEVATION: 629.04

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0 - 4 | 4 | | 0 | 0 | | | | |



ENVIRON

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GEOLOGIC DRILL LOG

BOREHOLE NO.: A3-5

TOTAL DEPTH: 4 feet

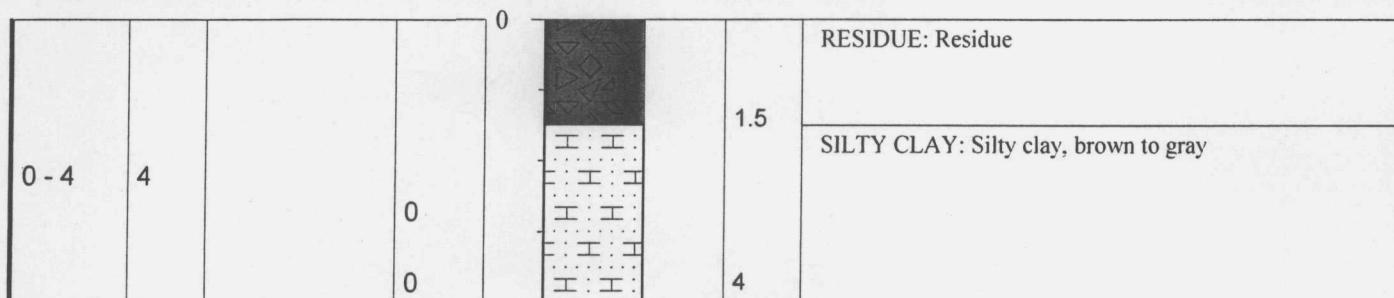
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/19/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E695582.4 N909286.7

GROUND SURFACE ELEVATION: 631.51

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-----------------------------|------|------------------|---|
| 0 - 4 | 4 | | 0 | 0 | H H H H H H H H H H H H H H | | 0 - 4 | RESIDUE: Residue SILTY CLAY: Silty clay, brown to gray |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: A3-6

TOTAL DEPTH: 4 feet

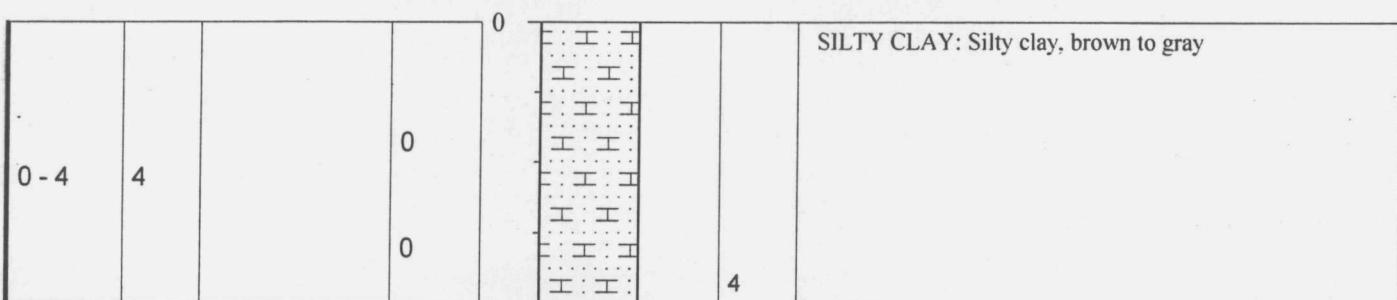
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/18/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP - -

SURVEY LOCATION: E695342.4 N909246.7

GROUND SURFACE ELEVATION:625.13

| SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|-------------------|-------------------|------------|-------------|------|------------------|------------------|
| SSS INTERVAL (ft) | SSS RECOVERY (ft) | | | | | |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: A3-7

TOTAL DEPTH: 12 feet

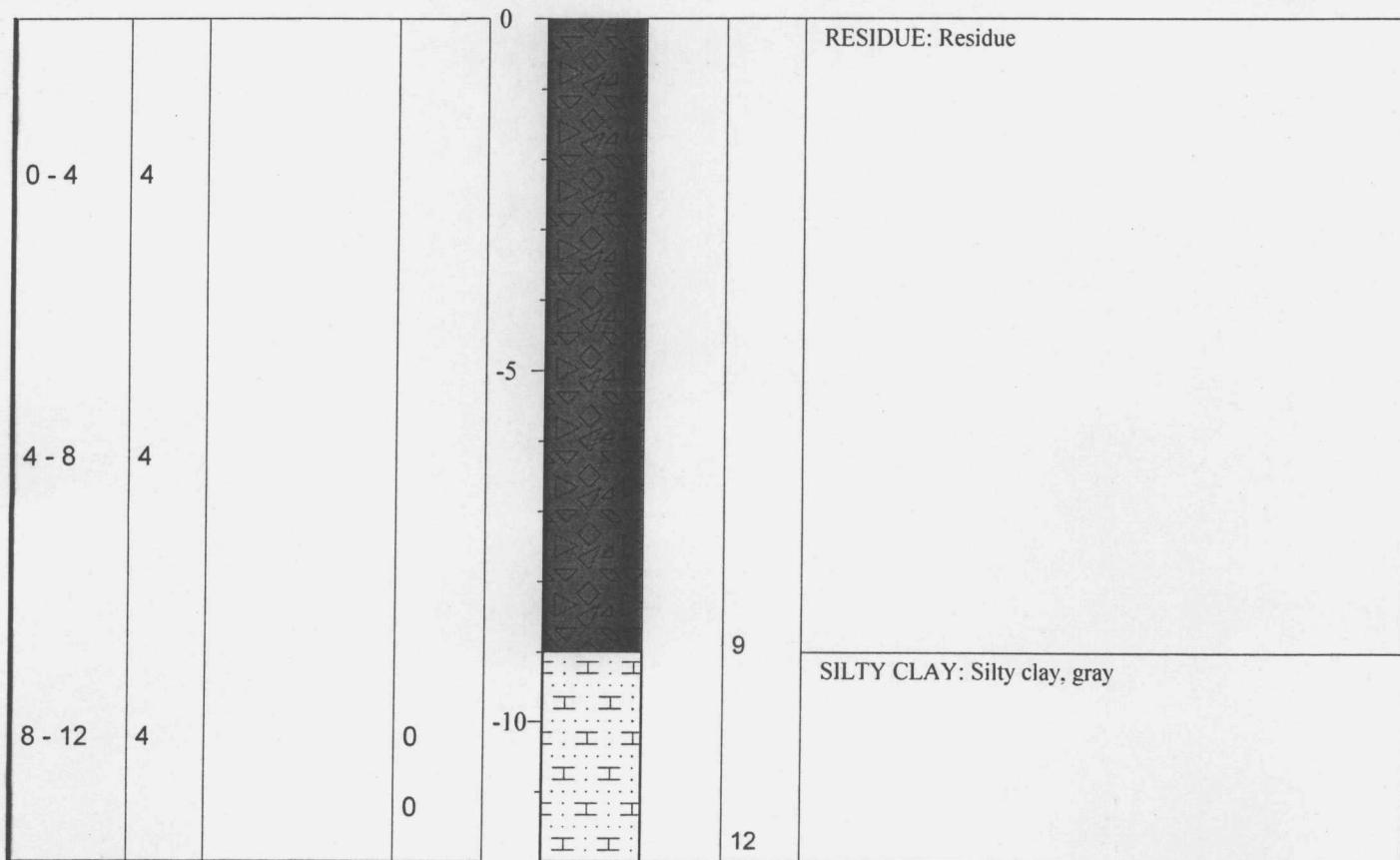
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/20/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E695357.1 N909193.5

GROUND SURFACE ELEVATION:---

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0 - 4 | 4 | | | -5 | | | 9 | RESIDUE: Residue |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: A3-8

TOTAL DEPTH: 8 feet

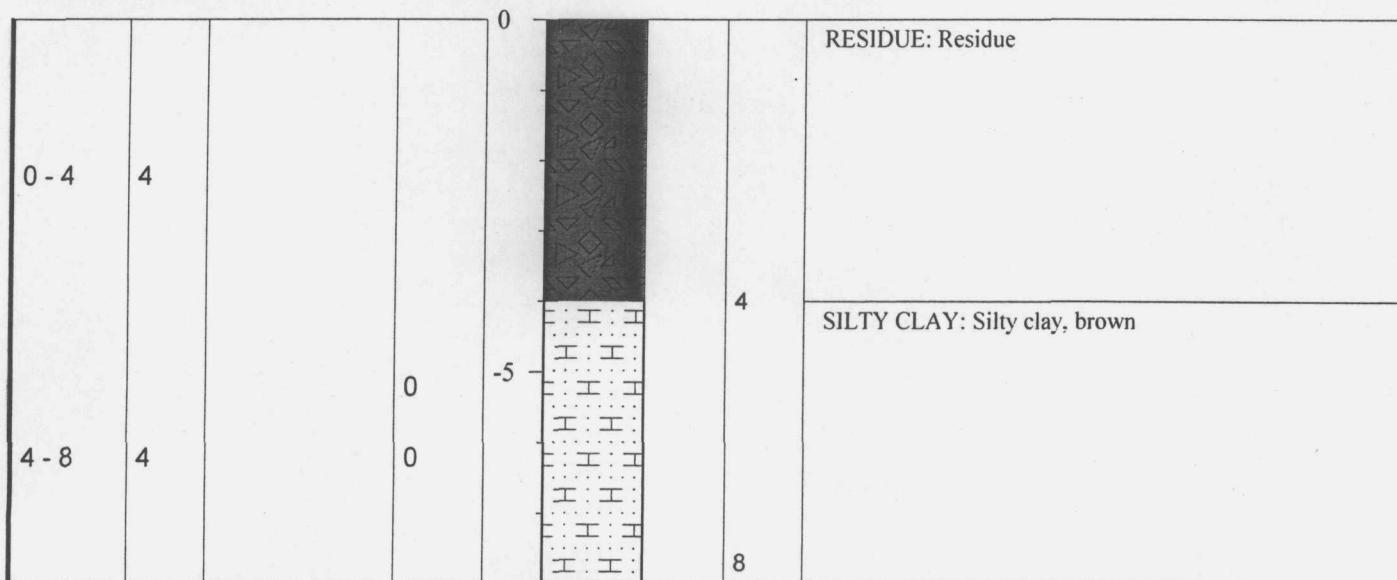
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/20/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E695462.4 N99206.7

GROUND SURFACE ELEVATION: 632.78

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0 - 4 | 4 | | | 0 | | | 0 - 4 | RESIDUE: Residue |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: A3-9

TOTAL DEPTH: 4 feet

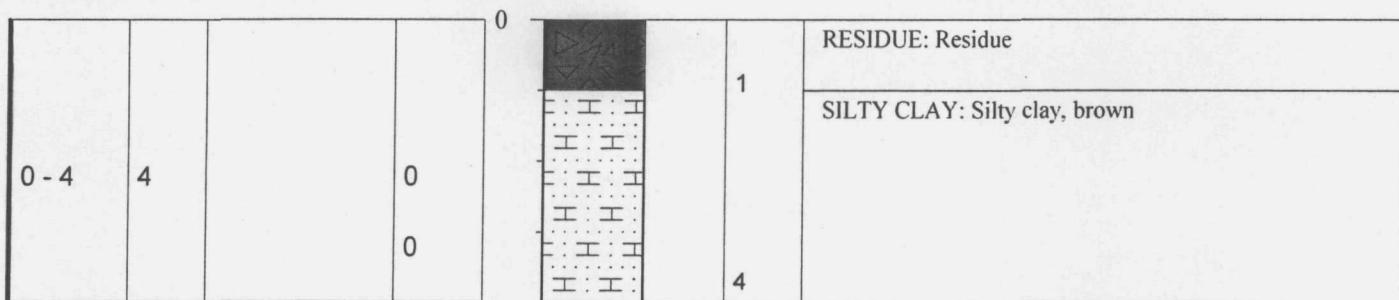
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/20/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E695622.4 N909206.7

GROUND SURFACE ELEVATION: 633.27

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0 - 4 | 4 | | 0 | 0 | | | | |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: A3-10

TOTAL DEPTH: 4 feet

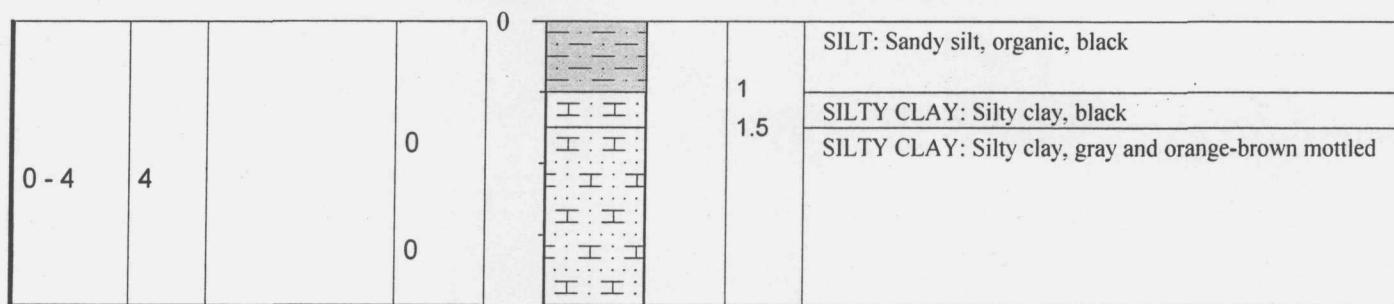
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/18/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E695262.4 N909126.7

GROUND SURFACE ELEVATION:--

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0 - 4 | 4 | | 0 | 0 | | | | |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: A3-11

TOTAL DEPTH: 8 feet

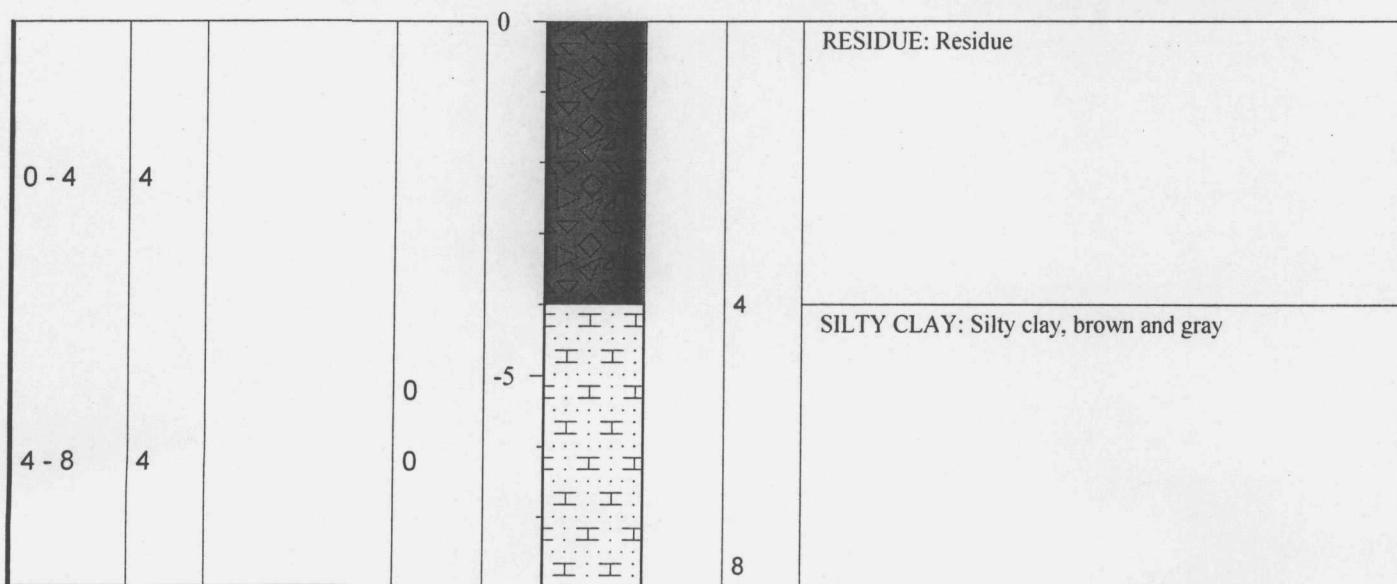
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/20/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E695462.5 N909086.7

GROUND SURFACE ELEVATION: 632.82

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|--|
| 0 - 4 | 4 | | | 0 | | | 0 - 4 | RESIDUE: Residue |
| 4 - 8 | 4 | | | 0 | | | 4 - 8 | SILTY CLAY: Silty clay, brown and gray |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: A3-12

TOTAL DEPTH: 4 feet

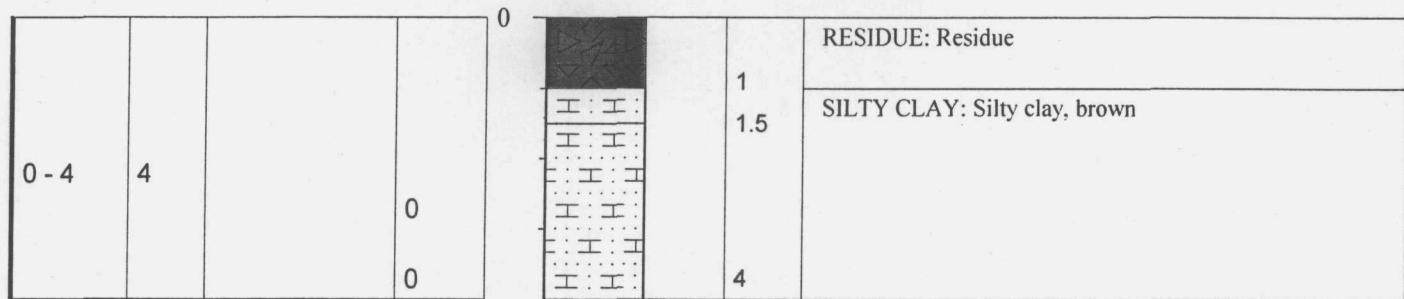
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/20/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E695622.5 N909086.6

GROUND SURFACE ELEVATION: 634.61

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0 - 4 | 4 | | 0 | 0 | | | | |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: A3-13

TOTAL DEPTH: 8 feet

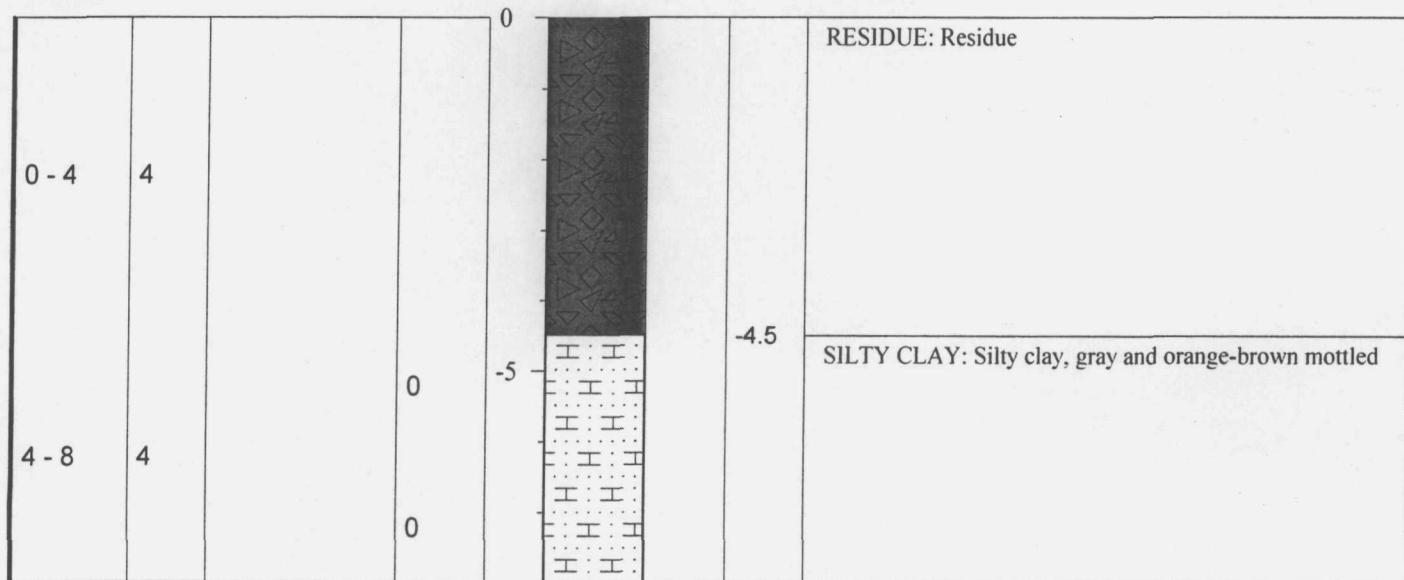
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/18/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E695502.4 N909006.7

GROUND SURFACE ELEVATION:--

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0 - 4 | 4 | | | 0 | | | | |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: A3-14

TOTAL DEPTH: 4 feet

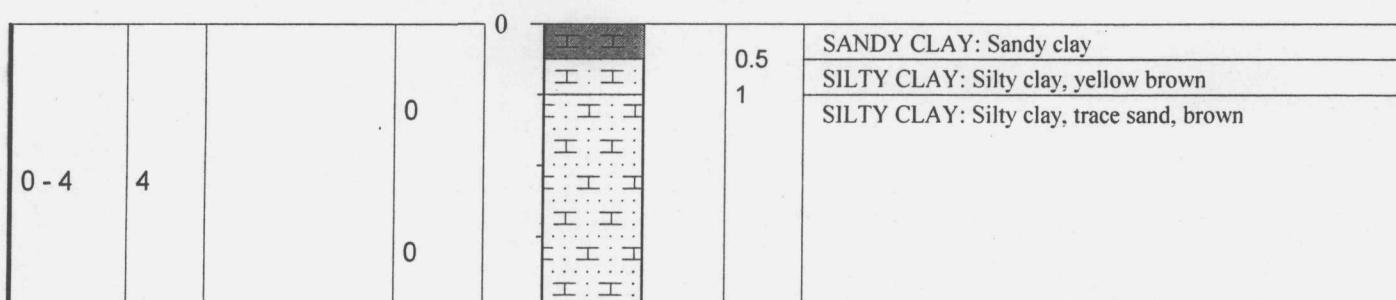
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/18/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E 695222.5 N 908966.7

GROUND SURFACE ELEVATION: 624.18

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0 - 4 | 4 | | 0 | 0 | | | | |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: A3-15

TOTAL DEPTH: 8 feet

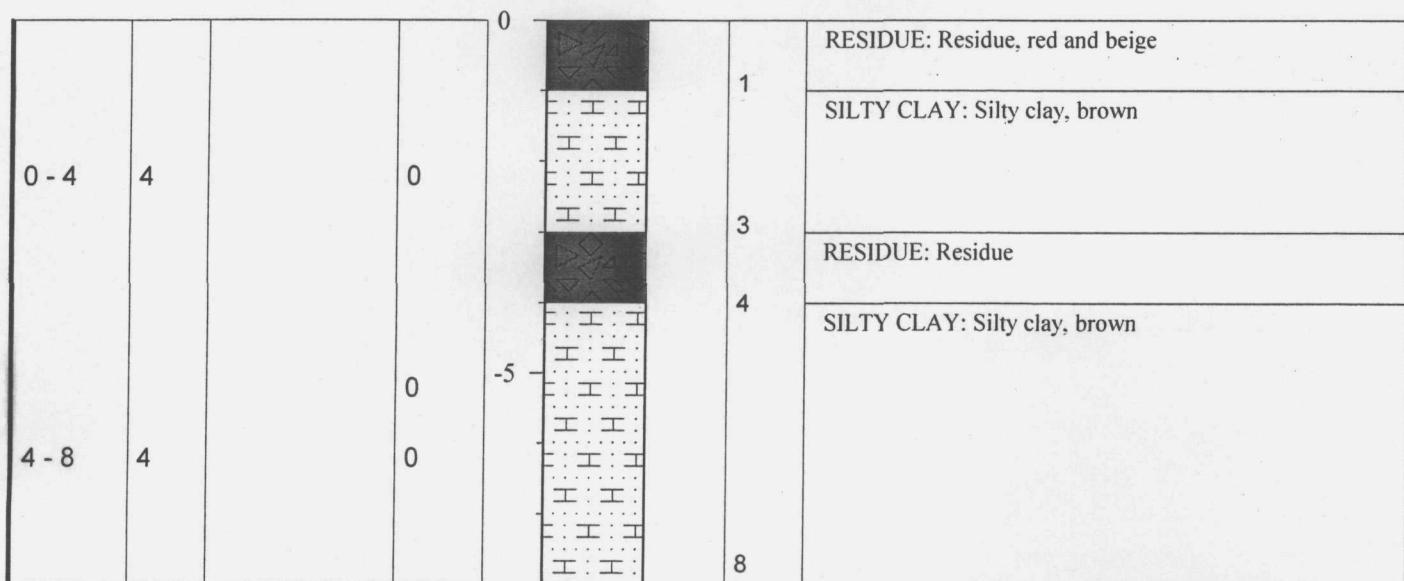
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/20/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E695342.4 N908966.7

GROUND SURFACE ELEVATION: 624.58

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|---------------------------------|
| 0 - 4 | 4 | | 0 | 0 | | | 0 | RESIDUE: Residue, red and beige |
| 4 - 8 | 4 | | 0 | -5 | | | 1 | SILTY CLAY: Silty clay, brown |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: A3-16

TOTAL DEPTH: 8 feet

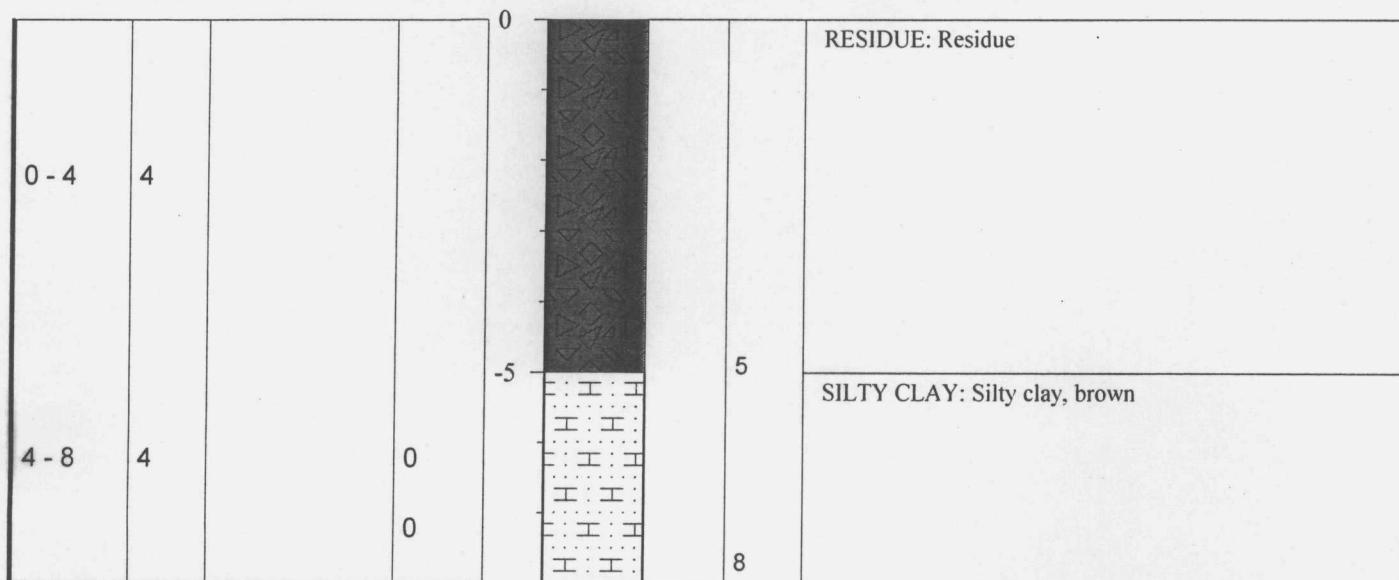
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/20/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E695412.4 N908926.6

GROUND SURFACE ELEVATION: 631.42

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0 - 4 | 4 | | | -5 | | | 0 | RESIDUE: Residue |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: A3-17

TOTAL DEPTH: 8 feet

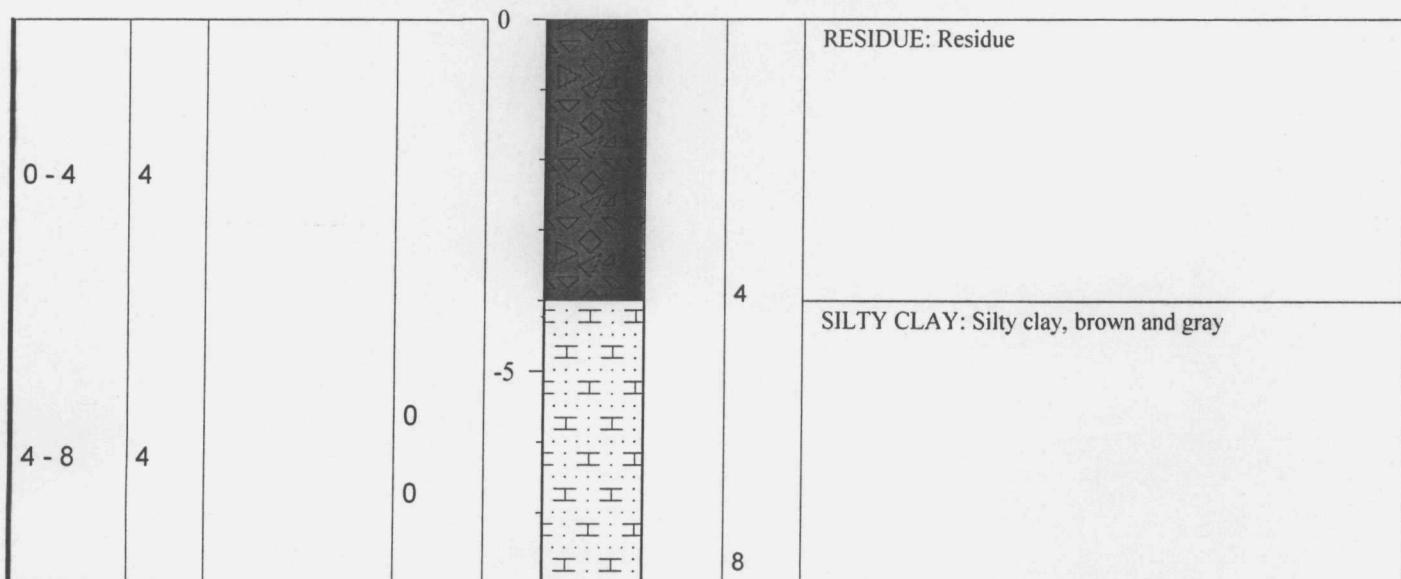
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/20/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E695633.4 N908926.7

GROUND SURFACE ELEVATION: 634.78

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|--|
| 0 - 4 | 4 | | | 0 | | | 0 | RESIDUE: Residue |
| 4 - 8 | 4 | | | 0 | | | 4 | SILTY CLAY: Silty clay, brown and gray |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: A3-18

TOTAL DEPTH: 4 feet

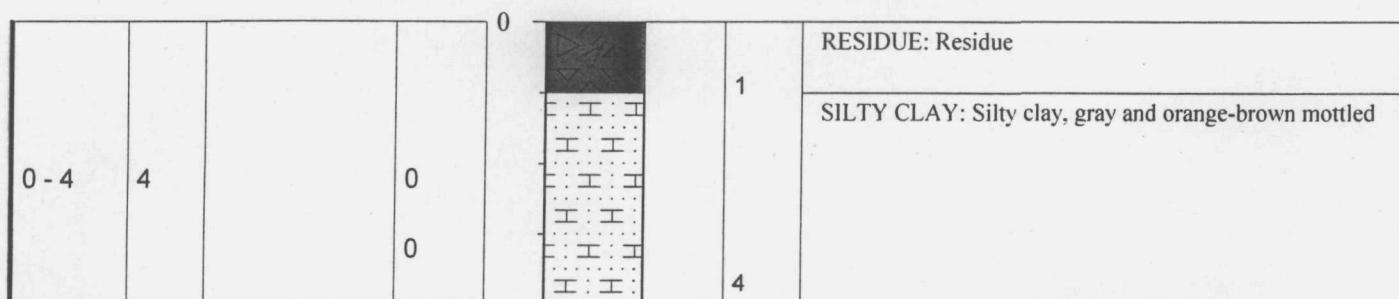
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/19/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E695342.4 N908846.7

GROUND SURFACE ELEVATION: 628.71

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0 - 4 | 4 | | 0 | 0 | | | | |



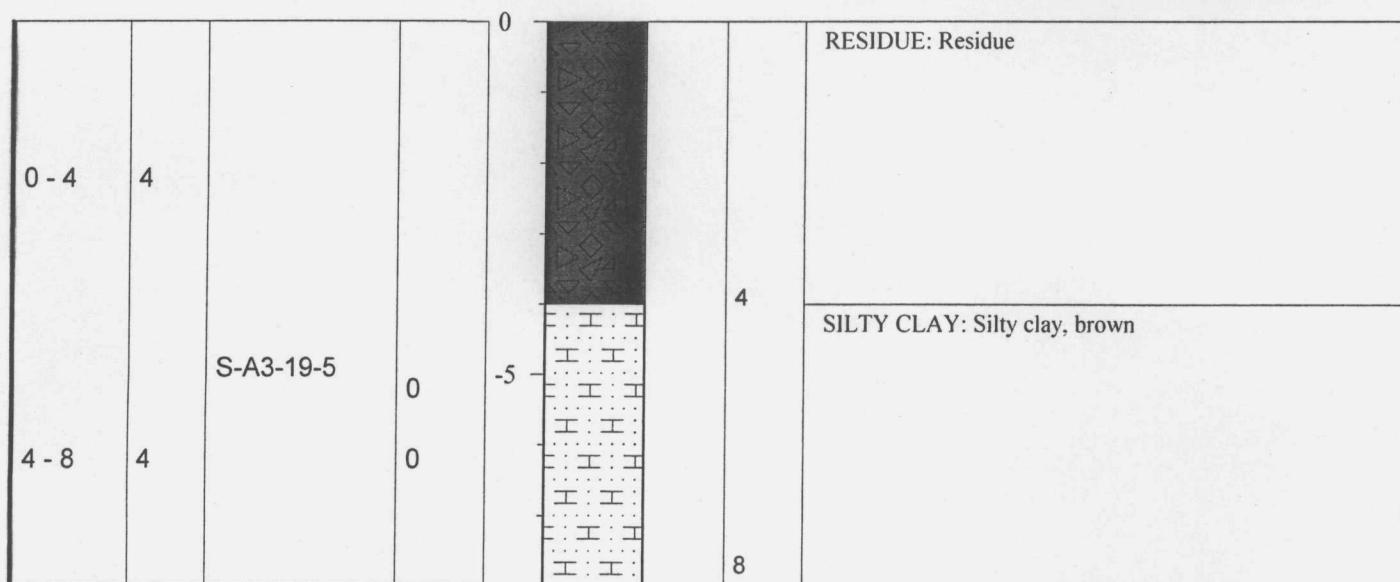
ENVIRON740 Waukegan Rd., Suite 401
Deerfield, Illinois 60015**GEOLOGIC DRILL LOG****BOREHOLE NO.: A3-19****TOTAL DEPTH: 8 feet**

PROJECT: **Eagle Zinc**
SITE LOCATION: **Hillsboro, IL**
JOB NO.: **21-7400E**
LOGGED BY: **J. Fraser, C. Greco**
DATES DRILLED: **7/20/02**

DRILLING CO.: **Philips**
RIG TYPE: **Direct Push**
METHOD OF DRILLING: **Geoprobe**
SAMPLING METHODS: **Macro-core Sampler**
HAMMER WT./DROP **--**

SURVEY LOCATION: E695502.4 N908846.7**GROUND SURFACE ELEVATION: 634.3**

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0 - 4 | 4 | S-A3-19-5 | 0 | 0 | | | 0 | RESIDUE: Residue |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: A3-20

TOTAL DEPTH: 4 feet

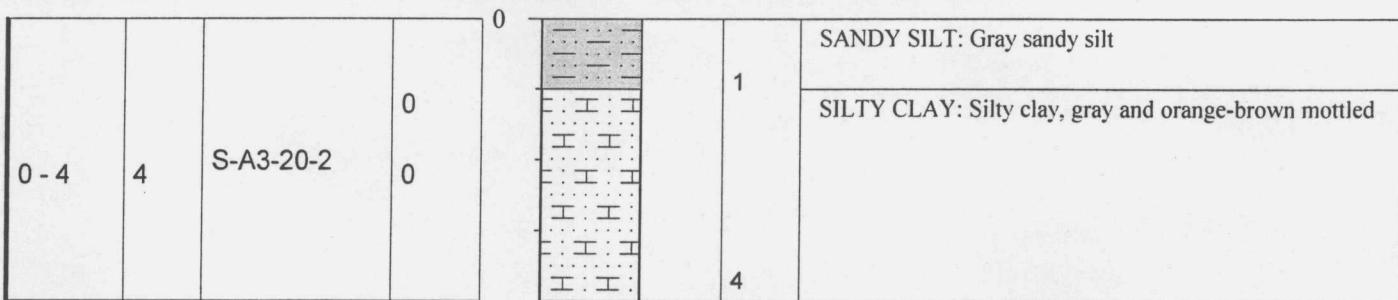
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/19/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E695262.4 N908806.7

GROUND SURFACE ELEVATION: 625.92

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0 - 4 | 4 | S-A3-20-2 | 0 | 0 | | | | |



ENVIRON

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GEOLOGIC DRILL LOG

BOREHOLE NO.: A3-21

TOTAL DEPTH: 4 feet

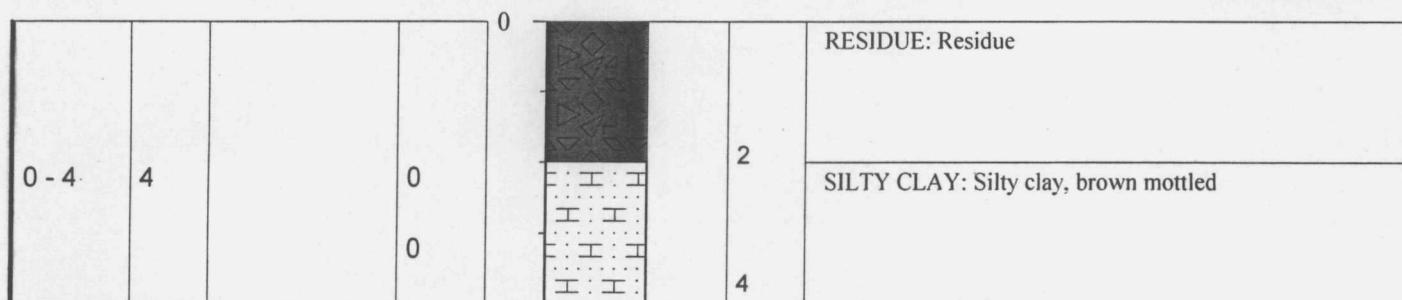
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/18/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E695622.4 N908806.7

GROUND SURFACE ELEVATION: 634.46

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0 - 4 | 4 | | 0 | 0 | | | | |



ENVIRON

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GEOLOGIC DRILL LOG

BOREHOLE NO.: A3-22

TOTAL DEPTH: 8 feet

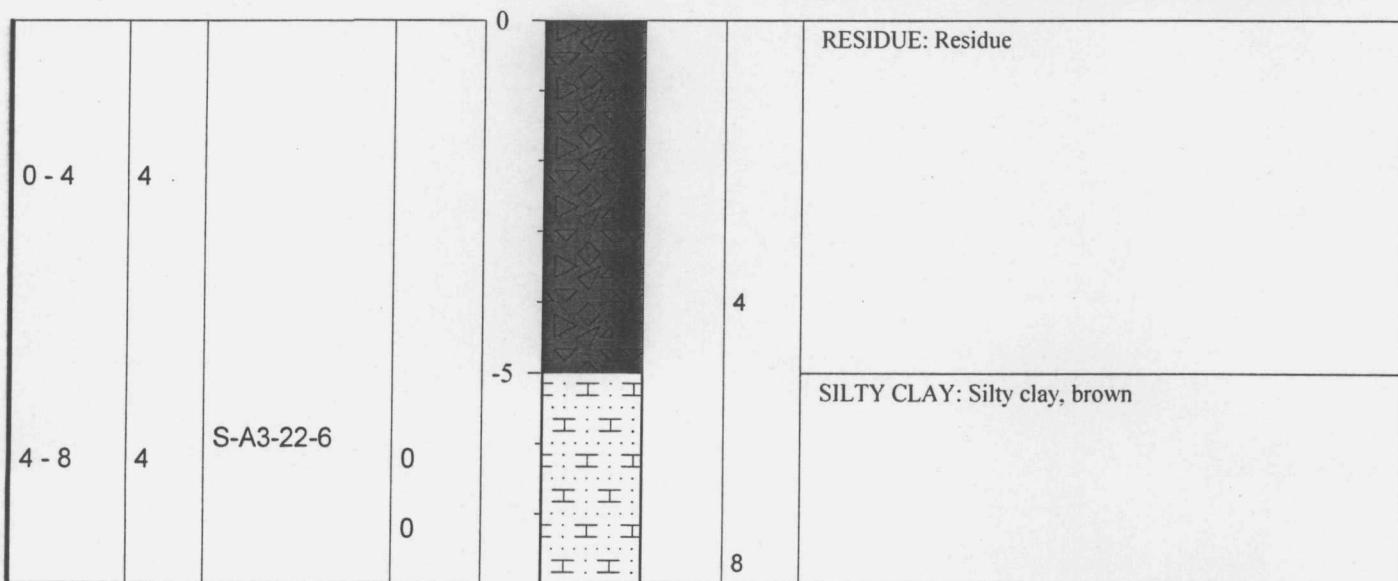
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/20/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E695422.4 N908766.7

GROUND SURFACE ELEVATION: 633.49

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|-----------------|------------------|-------------------------------|
| 0 - 4 | 4 | | | | | | 0 | RESIDUE: Residue |
| 4 - 8 | 4 | S-A3-22-6 | 0 | 0 | -5 | H H H H H H H H | 4 | SILTY CLAY: Silty clay, brown |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: A3-23

TOTAL DEPTH: 4 feet

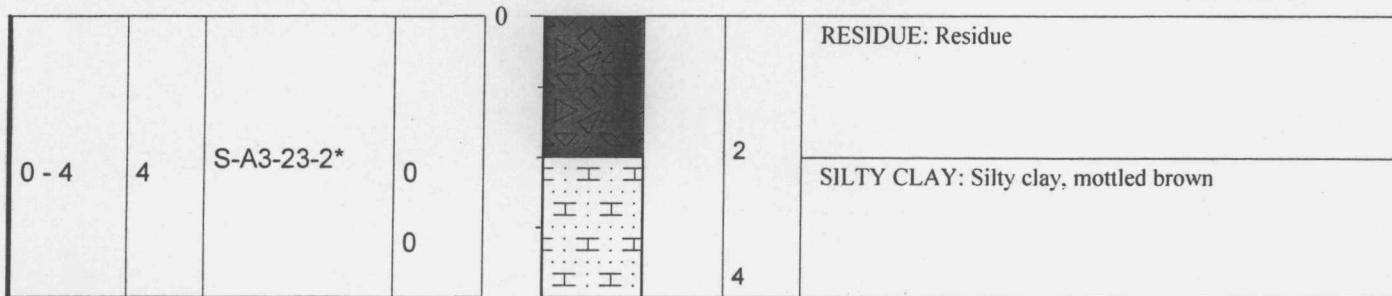
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/19/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E695262.4 N908726.7

GROUND SURFACE ELEVATION: 624.58

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|------------|-----------|------------|--|------|------------------|---|
| 0 - 4 | 4 | S-A3-23-2* | 0 0 | 0 |  | | 0 2 4 | RESIDUE: Residue SILTY CLAY: Silty clay, mottled brown |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: A3-24

TOTAL DEPTH: 4 feet

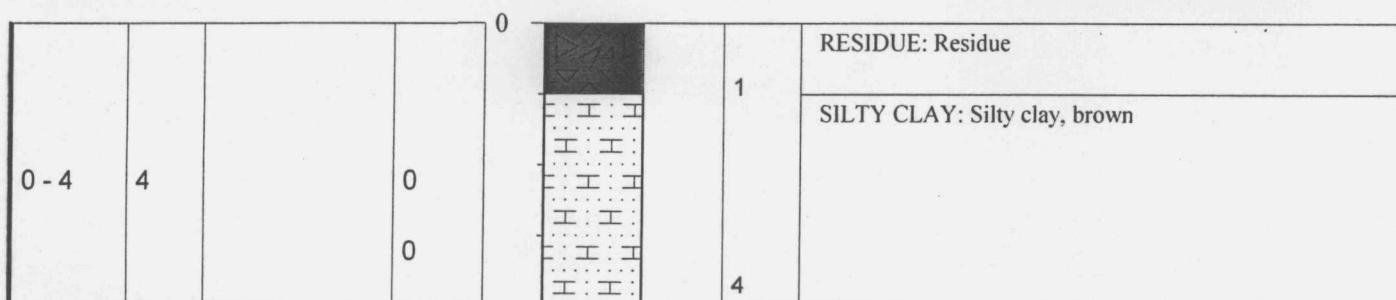
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/20/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E695342.4 N908686.7

GROUND SURFACE ELEVATION: 624.79

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0 - 4 | 4 | | 0 | 0 | | | | |



ENVIRON

740 Waukegan Rd., Suite 401
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GEOLOGIC DRILL LOG

BOREHOLE NO.: A3-25

TOTAL DEPTH: 4 feet

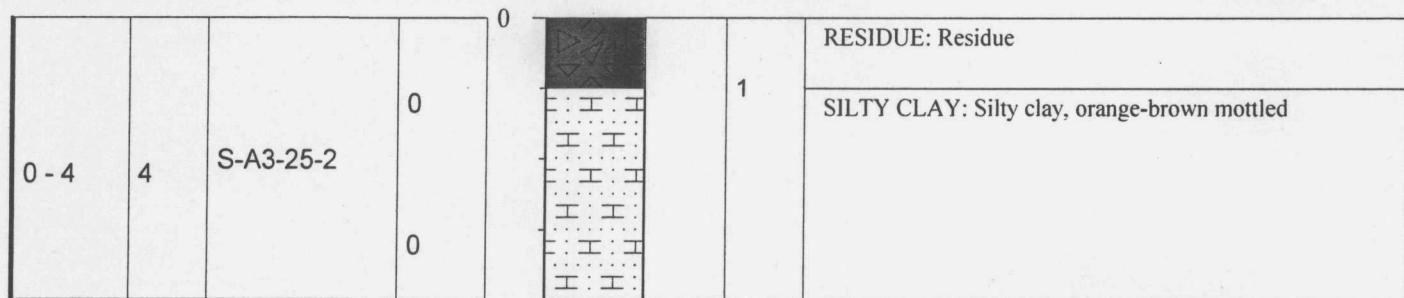
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/18/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E 695502.4 N 908686.7

GROUND SURFACE ELEVATION: 631.79

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0 - 4 | 4 | S-A3-25-2 | 0 | 0 | | | | |



ENVIRON

740 Waukegan Rd., Suite 401
Deerfield, Illinois 60015

GEOLOGIC DRILL LOG

BOREHOLE NO.: A4-1

TOTAL DEPTH: 8 feet

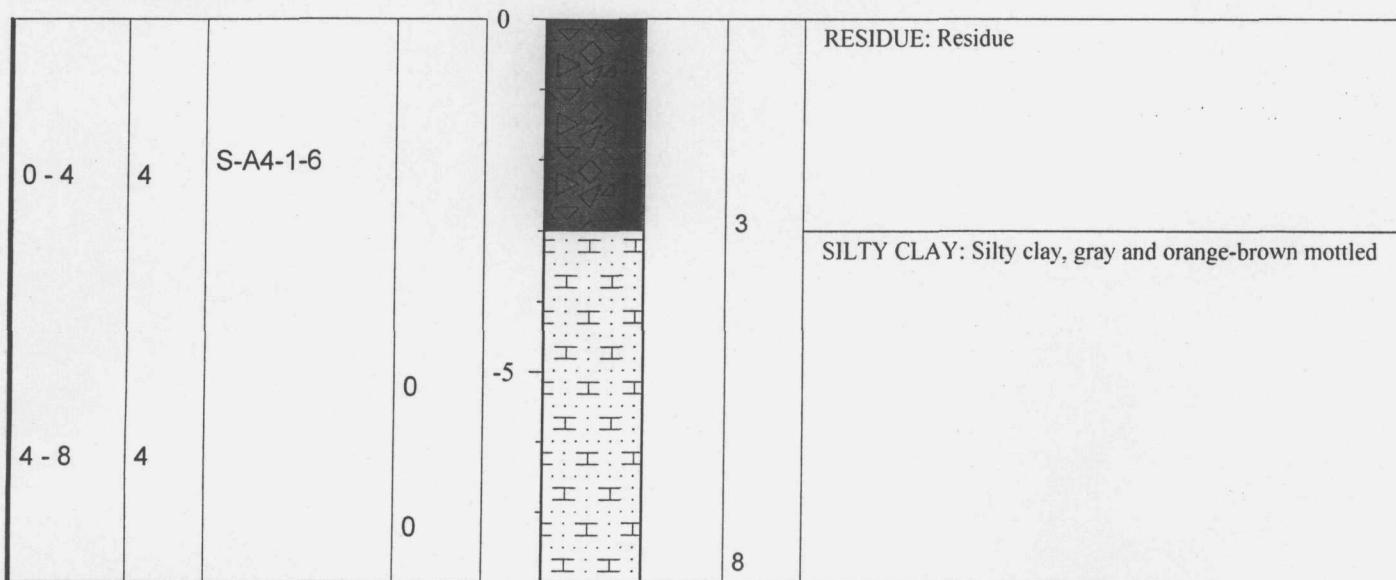
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/19/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E695417.9 N910212.5

GROUND SURFACE ELEVATION: 632.11

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|---|
| 0 - 4 | 4 | S-A4-1-6 | | 0 | | | 0 | RESIDUE: Residue |
| 4 - 8 | 4 | | | 0 | | | 3 | SILTY CLAY: Silty clay, gray and orange-brown mottled |



ENVIRON

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GEOLOGIC DRILL LOG

BOREHOLE NO.: A4-2

TOTAL DEPTH: 4 feet

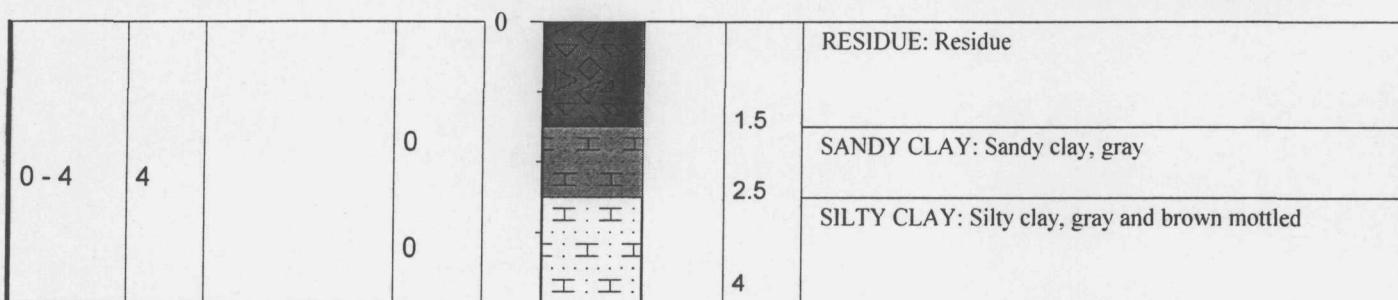
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/18/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E695078.4 N910189.6

GROUND SURFACE ELEVATION: 634.32

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0 - 4 | 4 | | 0 | 0 | | | | |



ENVIRON

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GEOLOGIC DRILL LOG

BOREHOLE NO.: A4-3

TOTAL DEPTH: 4 feet

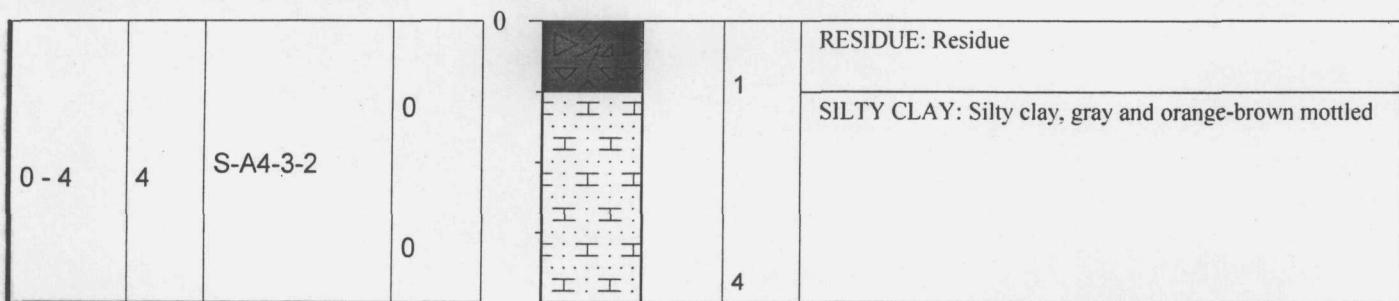
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/19/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E695217.9 N910132.5

GROUND SURFACE ELEVATION: 633.5

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0 - 4 | 4 | S-A4-3-2 | 0 | 0 | | | | |



ENVIRON

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GEOLOGIC DRILL LOG

BOREHOLE NO.: A4-4

TOTAL DEPTH: 8 feet

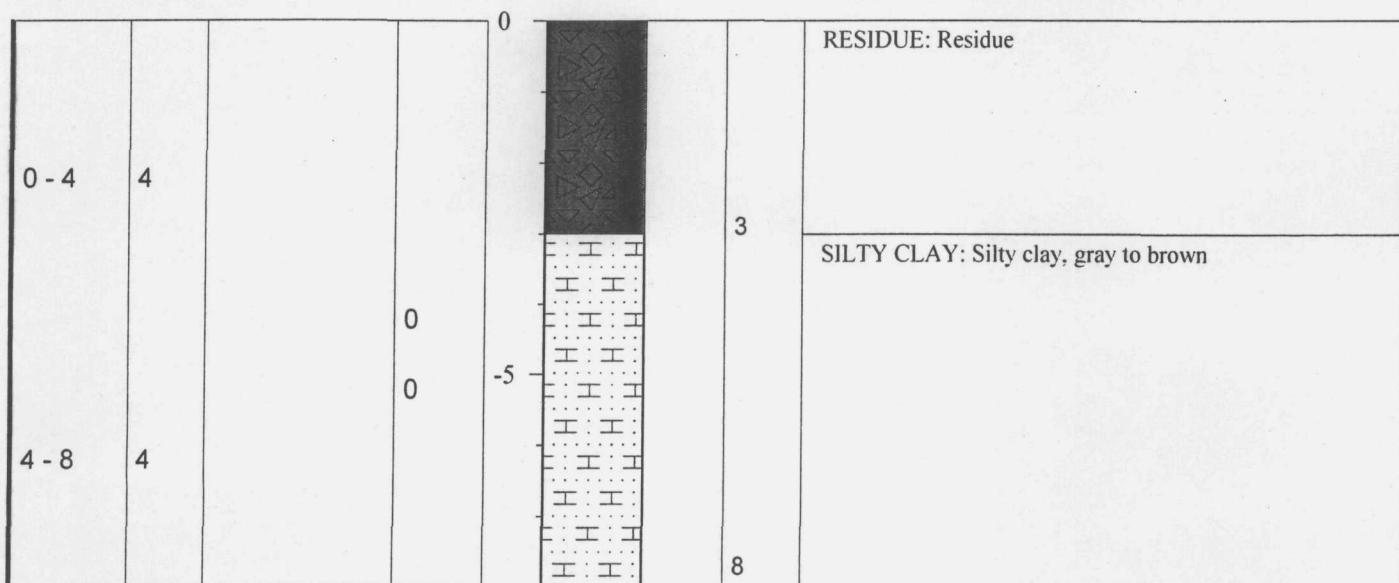
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/20/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E695497.9 N910132.5

GROUND SURFACE ELEVATION: 631.7

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| | | | | | | | | |
| | | | | | | | | |



ENVIRON

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GEOLOGIC DRILL LOG

BOREHOLE NO.: A4-5

TOTAL DEPTH: 4 feet

PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/20/02

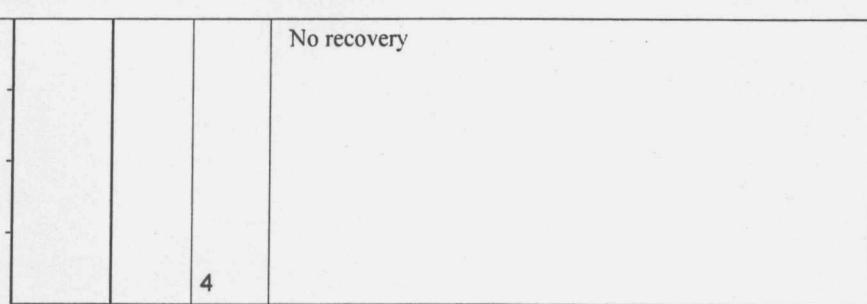
DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E695577.9 N910132.5

GROUND SURFACE ELEVATION: 630.59

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0 - 4 | 0 | | | | | | | No recovery |

| | | | |
|-------|---|--|--|
| 0 - 4 | 0 | | |
|-------|---|--|--|



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GEOLOGIC DRILL LOG

BOREHOLE NO.: A4-6

TOTAL DEPTH: 4 feet

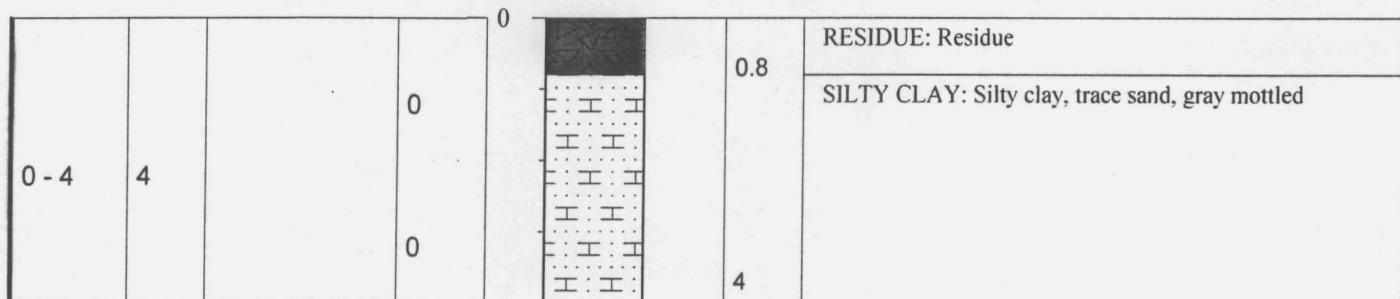
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/18/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E695097.9 N910092.5

GROUND SURFACE ELEVATION: 634.02

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0 - 4 | 4 | | 0 | 0 | | | | |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: A4-7

TOTAL DEPTH: 4 feet

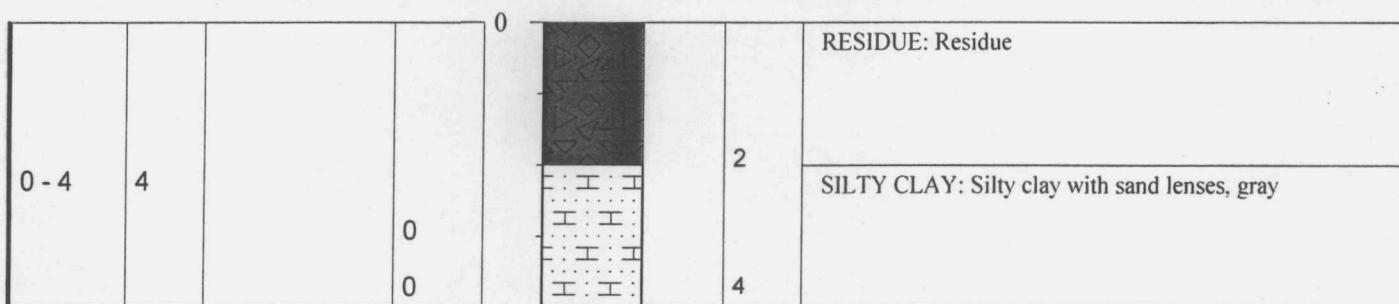
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/20/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E695497.9 N910052.5

GROUND SURFACE ELEVATION: 631.48

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0 - 4 | 4 | | 0 | 0 | | | | |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: A4-8

TOTAL DEPTH: 8 feet

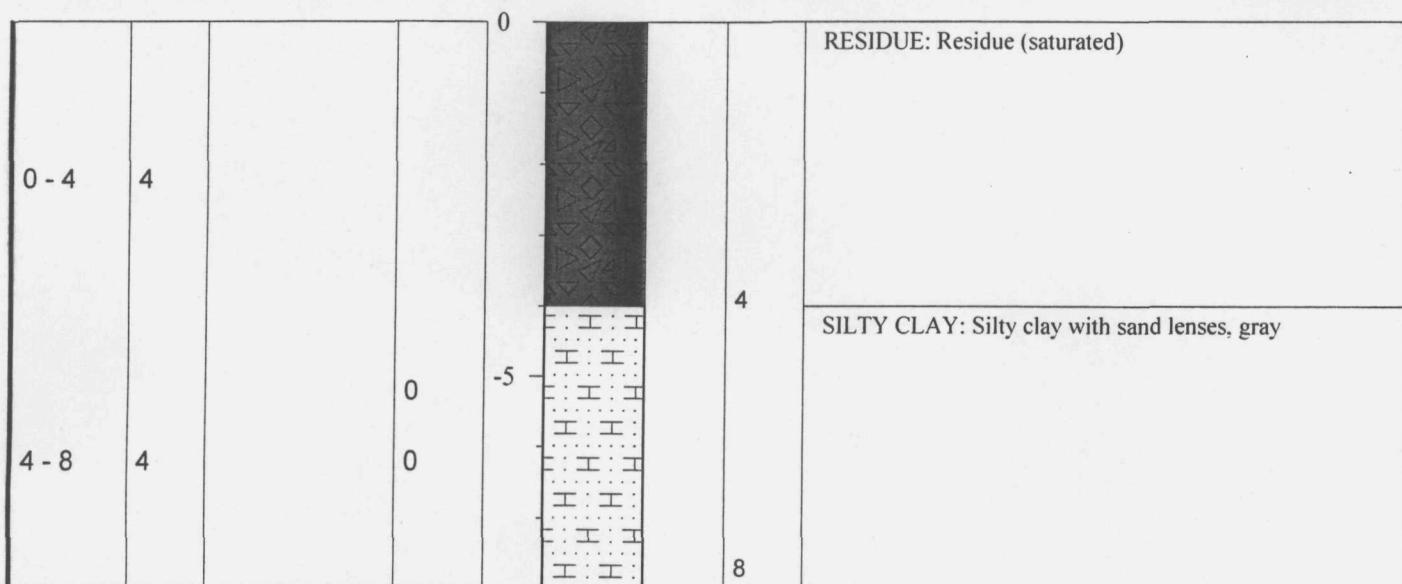
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/20/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E695577.9 N910052.5

GROUND SURFACE ELEVATION: 632.33

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|---|
| 0 - 4 | 4 | | | 0 | | | 0 - 4 | RESIDUE: Residue (saturated) |
| 4 - 8 | 4 | | | 0 | | | 4 - 8 | SILTY CLAY: Silty clay with sand lenses, gray |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: A4-9

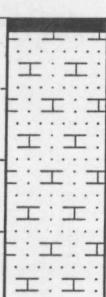
TOTAL DEPTH: 4 feet

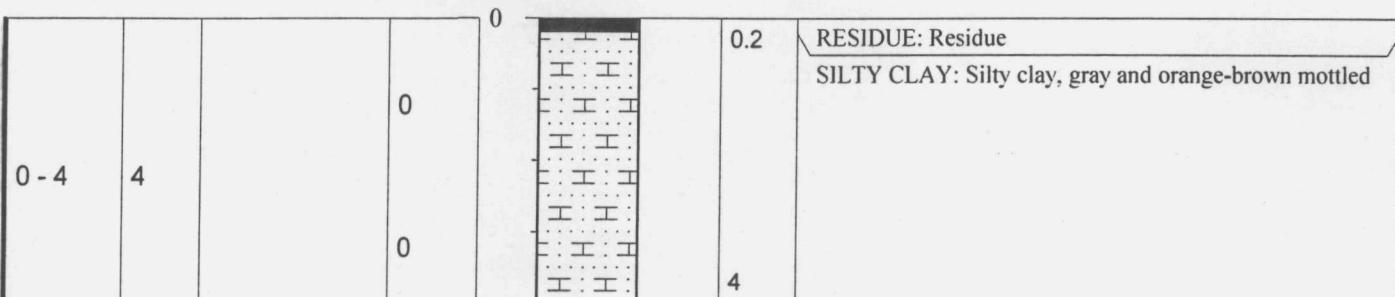
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/18/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E695057.9 N910012.5

GROUND SURFACE ELEVATION: 634.33

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|--|------|------------------|---|
| 0 - 4 | 4 | | 0 | 0 |  | | 0.2 | RESIDUE: Residue SILTY CLAY: Silty clay, gray and orange-brown mottled |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: A4-10

TOTAL DEPTH: 8 feet

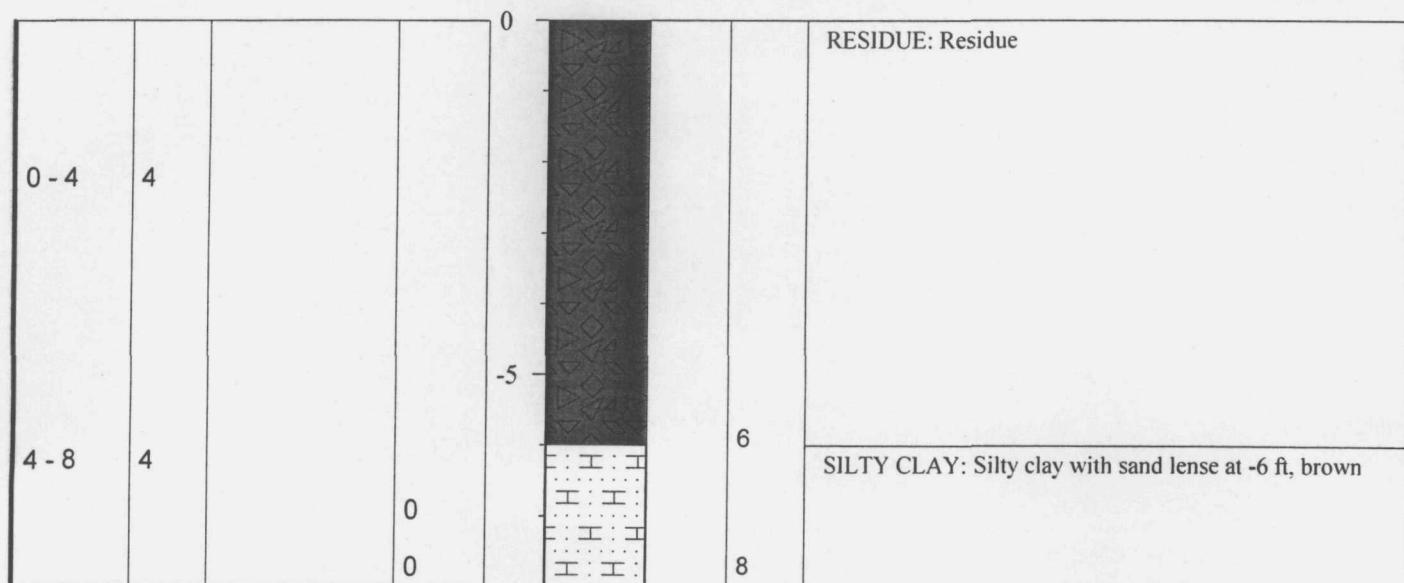
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/20/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E695657.9 N910012.5

GROUND SURFACE ELEVATION: 631.27

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| | | | | | | | | |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: A4-11

TOTAL DEPTH: 4 feet

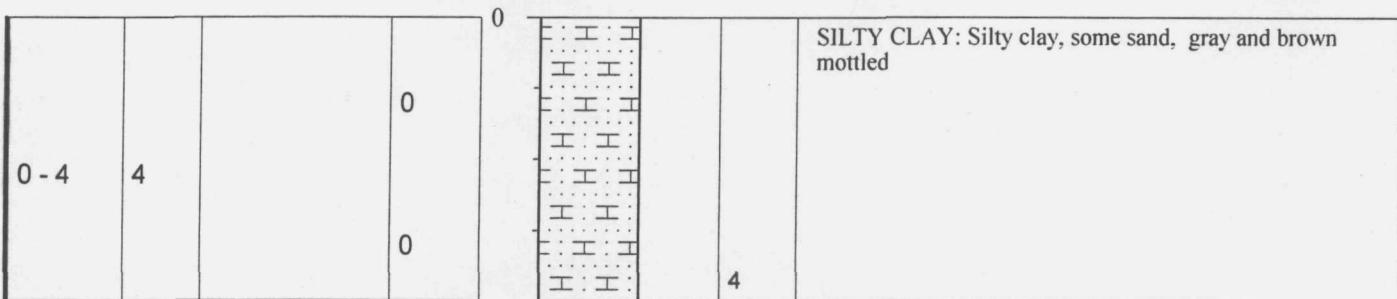
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/18/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E695057.9 N99892.5

GROUND SURFACE ELEVATION:633.17

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| | | | | | | | | |



ENVIRON

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GEOLOGIC DRILL LOG

BOREHOLE NO.: A4-12

TOTAL DEPTH: 4 feet

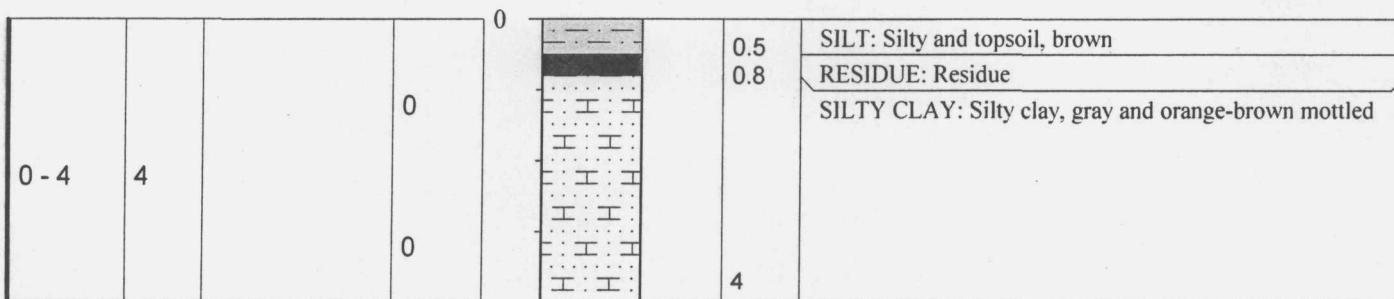
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/19/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E695217.9 N909892.5

GROUND SURFACE ELEVATION: 631.58

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0 - 4 | 4 | | 0 | 0 | | | | |



ENVIRON

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GEOLOGIC DRILL LOG

BOREHOLE NO.: A4-13

TOTAL DEPTH: 4 feet

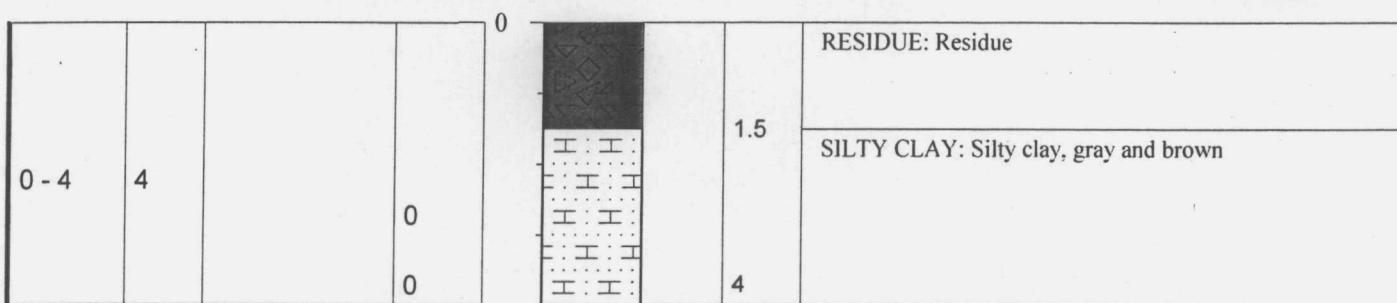
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/20/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E695577.9 N909812.5

GROUND SURFACE ELEVATION: 629.81

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0 - 4 | 4 | | 0 | 0 | | | | |



ENVIRON

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GEOLOGIC DRILL LOG

BOREHOLE NO.: A4-14

TOTAL DEPTH: 4 feet

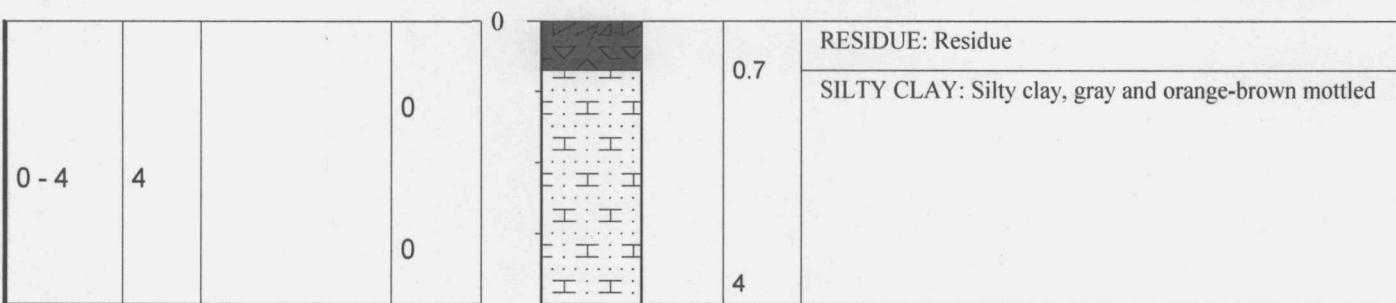
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/19/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E695257.9 N909772.5

GROUND SURFACE ELEVATION: 630.89

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0 - 4 | 4 | | 0 | 0 | | | 0.7 | RESIDUE: Residue |



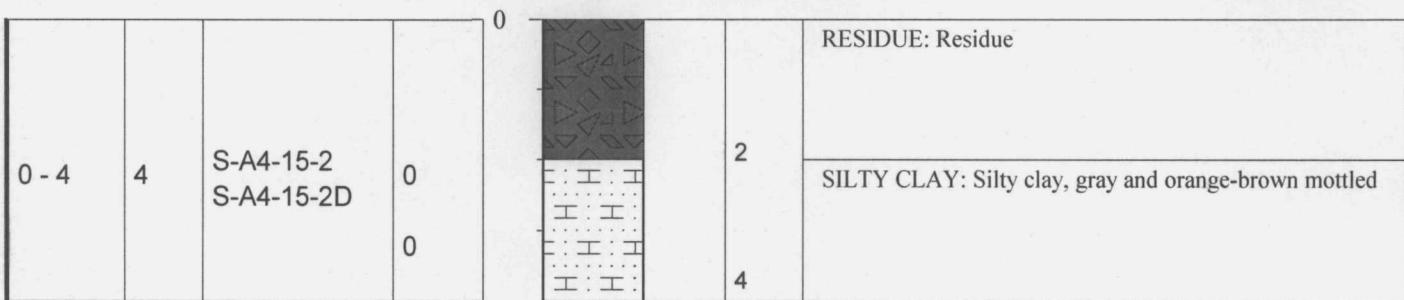
ENVIRON740 Waukegan Rd., Suite 401
Deerfield, Illinois 60015**GEOLOGIC DRILL LOG****BOREHOLE NO.: A4-15****TOTAL DEPTH: 4 feet**

PROJECT: **Eagle Zinc**
SITE LOCATION: **Hillsboro, IL**
JOB NO.: **21-7400E**
LOGGED BY: **J. Fraser, C. Greco**
DATES DRILLED: **7/18/02**

DRILLING CO.: **Philips**
RIG TYPE: **Direct Push**
METHOD OF DRILLING: **Geoprobe**
SAMPLING METHODS: **Macro-core Sampler**
HAMMER WT./DROP --

SURVEY LOCATION: E695337.9 N99732.5**GROUND SURFACE ELEVATION: 629.08**

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-------------------------|-----------|------------|--|------|------------------|------------------|
| 0 - 4 | 4 | S-A4-15-2 S-A4-15-2D | 0 0 | 0 |  | | 0 - 2 | RESIDUE: Residue |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: A4-16

TOTAL DEPTH: 4 feet

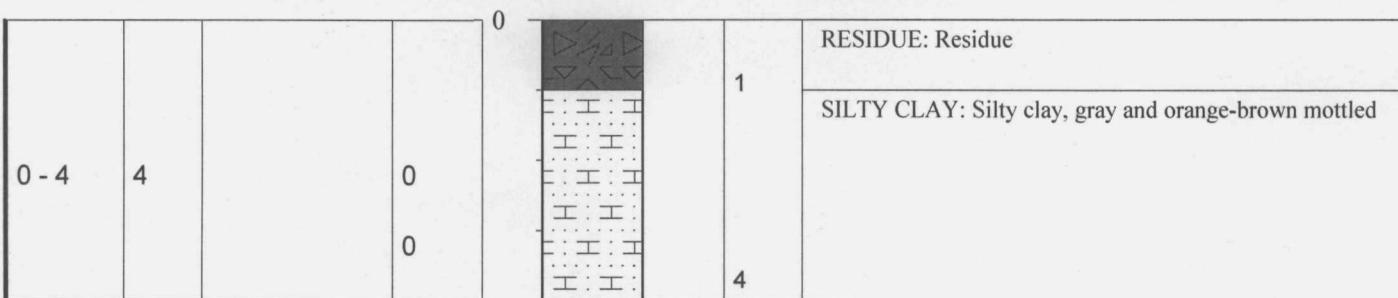
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/18/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E695497.9 N909732.5

GROUND SURFACE ELEVATION: 629.75

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|---|
| 0 - 4 | 4 | | 0 0 | 0 | | | 1 4 | RESIDUE: Residue SILTY CLAY: Silty clay, gray and orange-brown mottled |



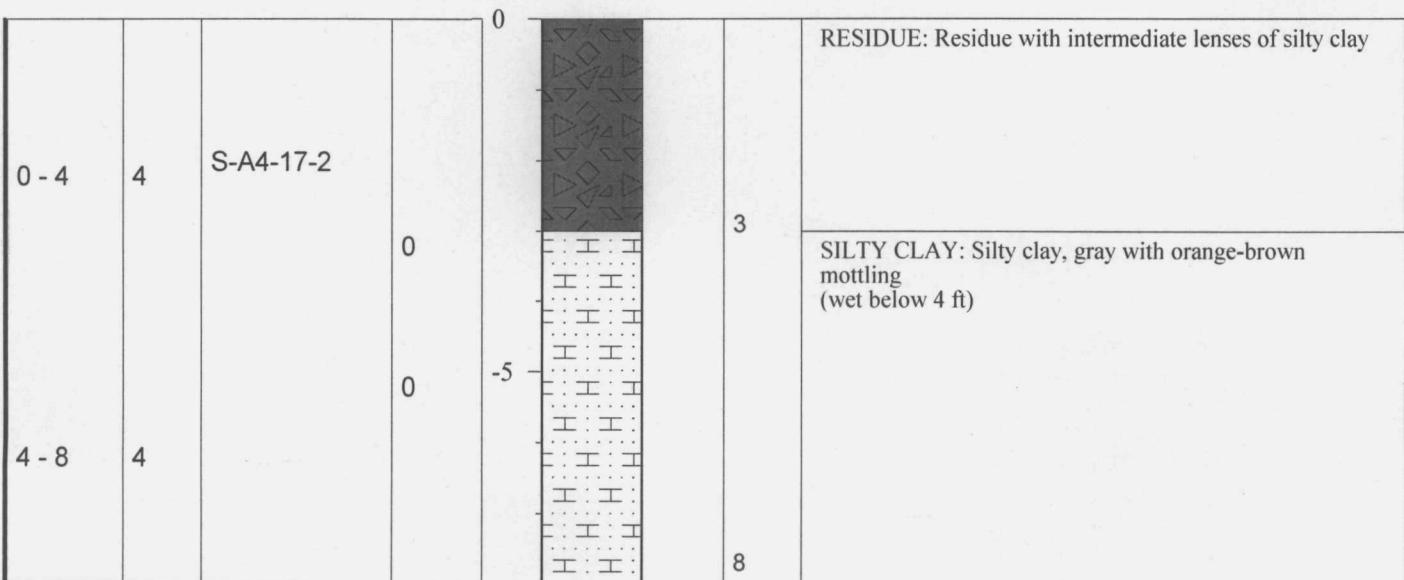
ENVIRON740 Waukegan Rd., Suite 401
Deerfield, Illinois 60015**GEOLOGIC DRILL LOG****BOREHOLE NO.: A4-17****TOTAL DEPTH: 8 feet**

PROJECT: **Eagle Zinc**
SITE LOCATION: **Hillsboro, IL**
JOB NO.: **21-7400E**
LOGGED BY: **J. Fraser, C. Greco**
DATES DRILLED: **7/18/02**

DRILLING CO.: **Philips**
RIG TYPE: **Direct Push**
METHOD OF DRILLING: **Geoprobe**
SAMPLING METHODS: **Macro-core Sampler**
HAMMER WT./DROP --

SURVEY LOCATION: E695297.9 N909652.5**GROUND SURFACE ELEVATION: 628.12**

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|---|
| 0 - 4 | 4 | S-A4-17-2 | 0 | 0 | 0 | | 3 | RESIDUE: Residue with intermediate lenses of silty clay |



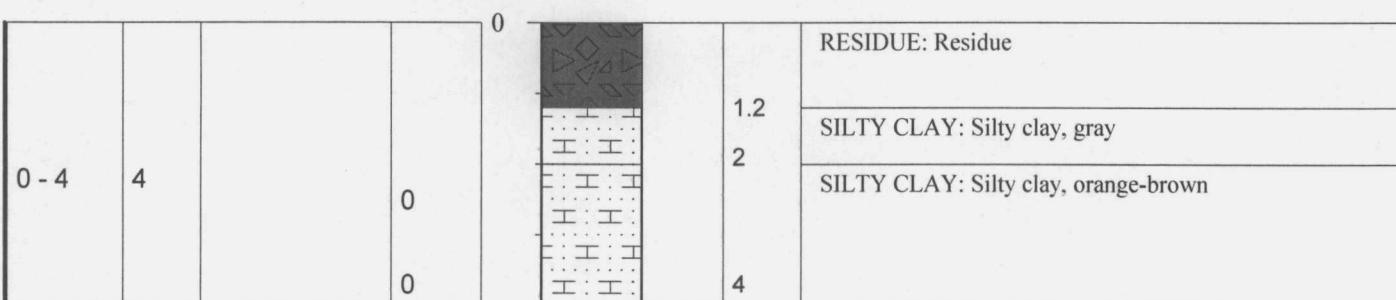
ENVIRON740 Waukegan Rd., Suite 401
Deerfield, Illinois 60015**GEOLOGIC DRILL LOG****BOREHOLE NO.: A4-18****TOTAL DEPTH: 4 feet**

PROJECT: **Eagle Zinc**
SITE LOCATION: **Hillsboro, IL**
JOB NO.: **21-7400E**
LOGGED BY: **J. Fraser, C. Greco**
DATES DRILLED: **7/19/02**

DRILLING CO.: **Philips**
RIG TYPE: **Direct Push**
METHOD OF DRILLING: **Geoprobe**
SAMPLING METHODS: **Macro-core Sampler**
HAMMER WT./DROP --

SURVEY LOCATION: E695222.4 N909612.5**GROUND SURFACE ELEVATION: 628.62**

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0 - 4 | 4 | | 0 | 0 | | | | |



ENVIRON

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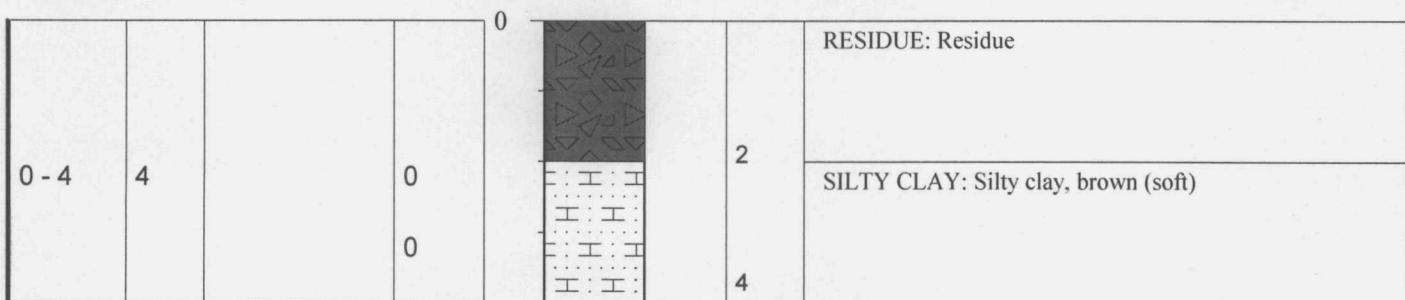
GEOLOGIC DRILL LOG**BOREHOLE NO.: A4-19****TOTAL DEPTH: 4 feet**

PROJECT: **Eagle Zinc**
SITE LOCATION: **Hillsboro, IL**
JOB NO.: **21-7400E**
LOGGED BY: **J. Fraser, C. Greco**
DATES DRILLED: **7/18/02**

DRILLING CO.: **Philips**
RIG TYPE: **Direct Push**
METHOD OF DRILLING: **Geoprobe**
SAMPLING METHODS: **Macro-core Sampler**
HAMMER WT./DROP --

SURVEY LOCATION: **E695497.9 N909572.5**GROUND SURFACE ELEVATION: **626.81**

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0 - 4 | 4 | | 0 | 0 | | | | |



ENVIRON

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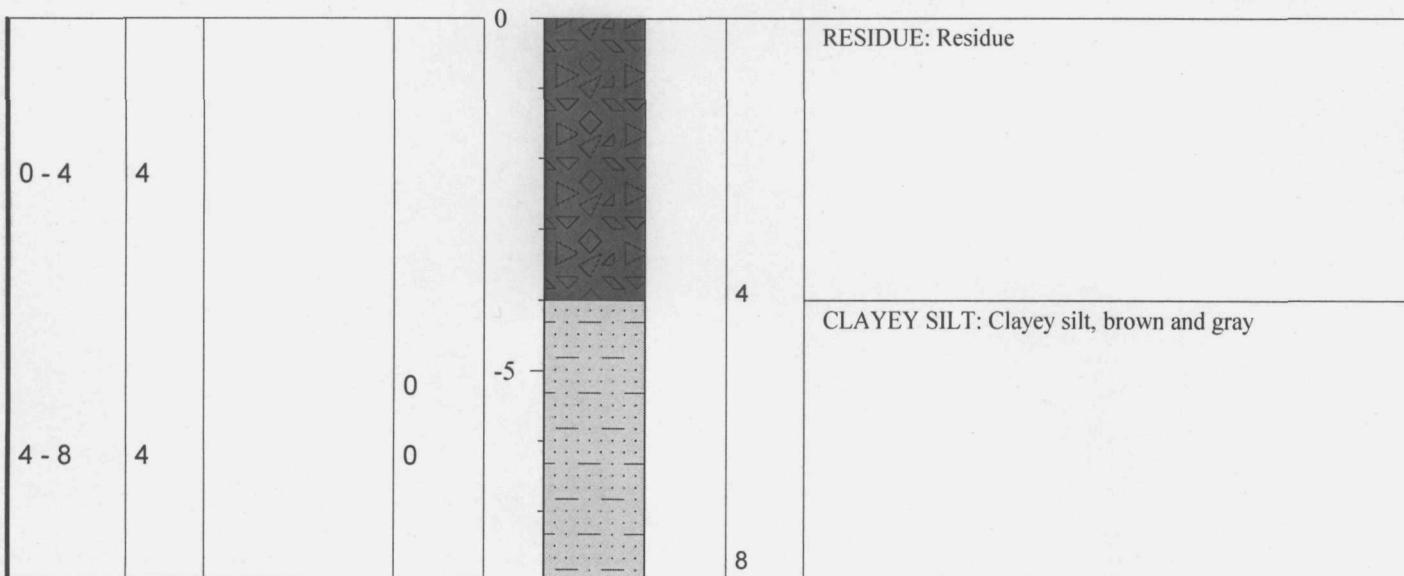
GEOLOGIC DRILL LOG**BOREHOLE NO.: A4-20****TOTAL DEPTH: 8 feet**

PROJECT: **Eagle Zinc**
SITE LOCATION: **Hillsboro, IL**
JOB NO.: **21-7400E**
LOGGED BY: **J. Fraser, C. Greco**
DATES DRILLED: **7/20/02**

DRILLING CO.: **Philips**
RIG TYPE: **Direct Push**
METHOD OF DRILLING: **Geoprobe**
SAMPLING METHODS: **Macro-core Sampler**
HAMMER WT./DROP --

SURVEY LOCATION: **E695617.9 N909572.5**GROUND SURFACE ELEVATION: **629.43**

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0 - 4 | 4 | | | 0 | | | 0 - 4 | RESIDUE: Residue |



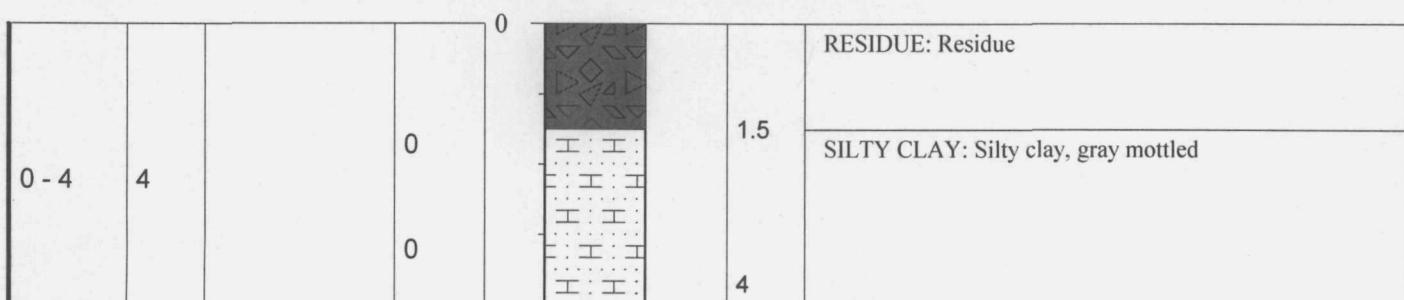
ENVIRON740 Waukegan Rd., Suite 401
Deerfield, Illinois 60015**GEOLOGIC DRILL LOG****BOREHOLE NO.: A4-21****TOTAL DEPTH: 4 feet**

PROJECT: **Eagle Zinc**
SITE LOCATION: **Hillsboro, IL**
JOB NO.: **21-7400E**
LOGGED BY: **J. Fraser, C. Greco**
DATES DRILLED: **7/19/02**

DRILLING CO.: **Philips**
RIG TYPE: **Direct Push**
METHOD OF DRILLING: **Geoprobe**
SAMPLING METHODS: **Macro-core Sampler**
HAMMER WT./DROP **--**

SURVEY LOCATION: E695257.9 N909492.5**GROUND SURFACE ELEVATION: 629.43**

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0 - 4 | 4 | | 0 | 0 | | | | |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: A4-22

TOTAL DEPTH: 4 feet

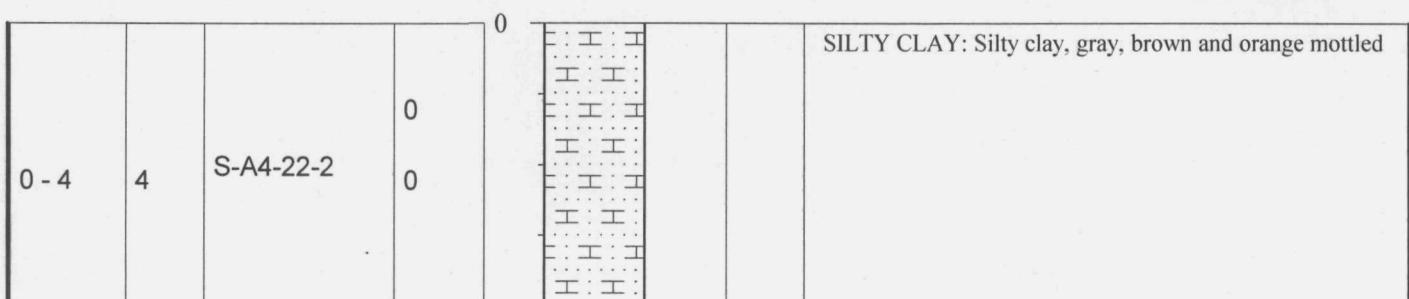
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/19/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E695377.9 N909412.5

GROUND SURFACE ELEVATION:624.11

| SSS INTERVAL (ft) | SSS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|-------------------|-------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
|-------------------|-------------------|-----------|-----------|------------|-------------|------|------------------|------------------|



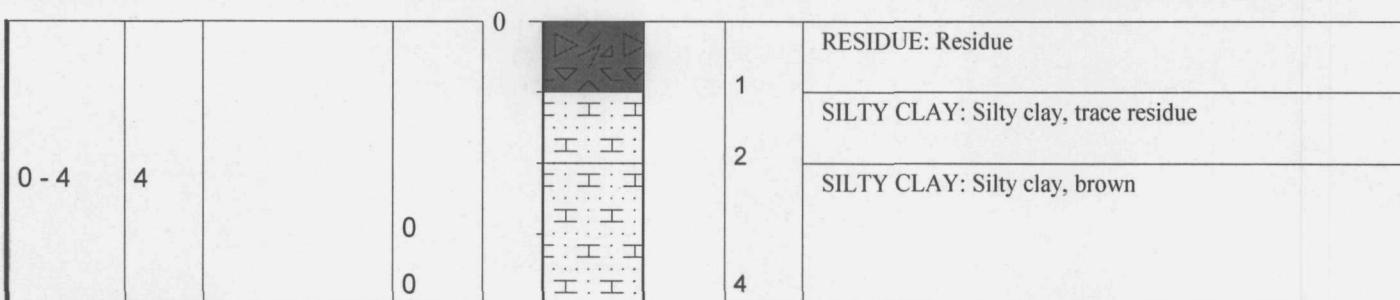
ENVIRON740 Waukegan Rd., Suite 401
Deerfield, Illinois 60015**GEOLOGIC DRILL LOG****BOREHOLE NO.: A4-23****TOTAL DEPTH: 4 feet**

PROJECT: **Eagle Zinc**
SITE LOCATION: **Hillsboro, IL**
JOB NO.: **21-7400E**
LOGGED BY: **J. Fraser, C. Greco**
DATES DRILLED: **7/20/02**

DRILLING CO.: **Philips**
RIG TYPE: **Direct Push**
METHOD OF DRILLING: **Geoprobe**
SAMPLING METHODS: **Macro-core Sampler**
HAMMER WT./DROP --

SURVEY LOCATION: E695577.9 N909412.5**GROUND SURFACE ELEVATION: 630.1**

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0 - 4 | 4 | | 0 | 0 | | | | |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: A4-24

TOTAL DEPTH: 4 feet

PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 7/18/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E695297.9 N909372.5

GROUND SURFACE ELEVATION: 623.33

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0 - 4 | 4 | | 0 | 0 | | | | |

| | | | | | | | | |
|-------|---|--|---|---|---|--|---|--|
| 0 - 4 | 4 | | 0 | 0 | 0 | | 1 | TOPSOIL: Clayey topsoil, trace residue |
| | | | | | | | | SILTY CLAY: Silty clay, gray |

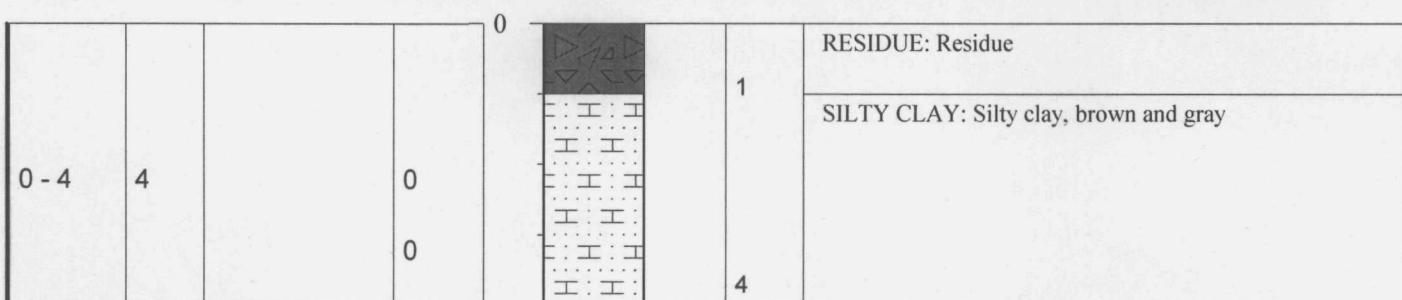
ENVIRON740 Waukegan Rd., Suite 401
Deerfield, Illinois 60015**GEOLOGIC DRILL LOG****BOREHOLE NO.: A4-25****TOTAL DEPTH: 4 feet**

PROJECT: **Eagle Zinc**
SITE LOCATION: **Hillsboro, IL**
JOB NO.: **21-7400E**
LOGGED BY: **J. Fraser, C. Greco**
DATES DRILLED: **7/20/02**

DRILLING CO.: **Philips**
RIG TYPE: **Direct Push**
METHOD OF DRILLING: **Geoprobe**
SAMPLING METHODS: **Macro-core Sampler**
HAMMER WT./DROP **--**

SURVEY LOCATION: E695326 N910016.5**GROUND SURFACE ELEVATION:--**

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0 - 4 | 4 | | 0 | 0 | | | | |

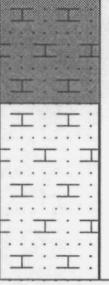


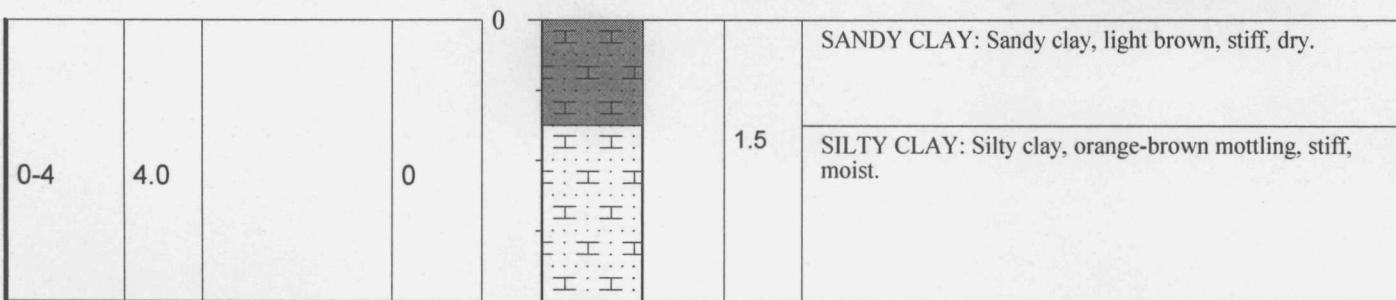
ENVIRON740 Waukegan Rd., Suite 401
Deerfield, Illinois 60015**GEOLOGIC DRILL LOG****BOREHOLE NO.: WA-1****TOTAL DEPTH: 4 feet**

PROJECT: **Eagle Zinc**
SITE LOCATION: **Hillsboro, IL**
JOB NO.: **21-7400E**
LOGGED BY: **J. Fraser, C. Greco**
DATES DRILLED: **07/17/02**

DRILLING CO.: **Philips**
RIG TYPE: **Direct Push**
METHOD OF DRILLING: **Geoprobe**
SAMPLING METHODS: **Macro-core Sampler**
HAMMER WT./DROP --

SURVEY LOCATION: E 694964.3 N 910292.5**GROUND SURFACE ELEVATION: 633.52'**

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|--|------|------------------|--|
| 0-4 | 4.0 | | 0 | 0 |  | | 0-1.5 | SANDY CLAY: Sandy clay, light brown, stiff, dry. SILTY CLAY: Silty clay, orange-brown mottling, stiff, moist. |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: WA-2

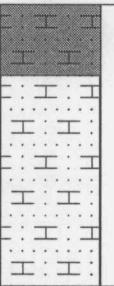
TOTAL DEPTH: 4 feet

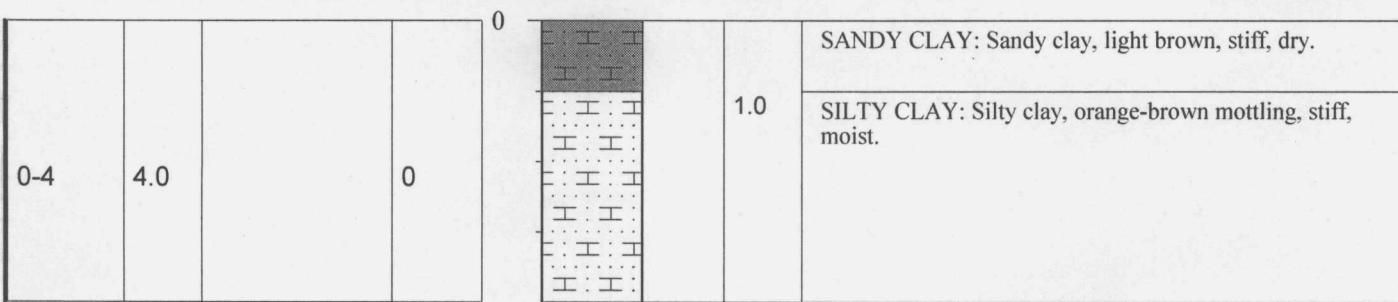
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 07/17/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E 695177.3 N 909772.5

GROUND SURFACE ELEVATION: 631.4'

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|--|------|------------------|--|
| 0-4 | 4.0 | | 0 | 0 |  | | 1.0 | SANDY CLAY: Sandy clay, light brown, stiff, dry. SILTY CLAY: Silty clay, orange-brown mottling, stiff, moist. |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: WA-3

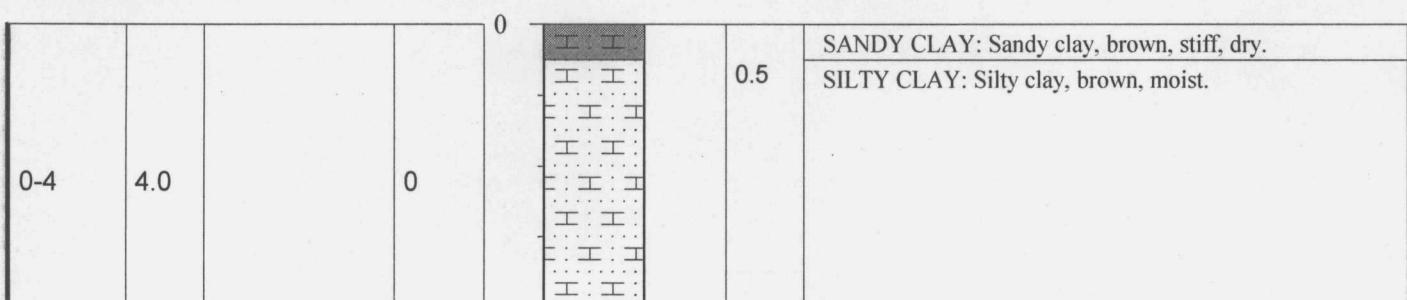
TOTAL DEPTH: 4 feet

| | | | |
|----------------|----------------------------|---------------------|---------------------------|
| PROJECT: | Eagle Zinc | DRILLING CO.: | Philips |
| SITE LOCATION: | Hillsboro, IL | RIG TYPE: | Direct Push |
| JOB NO.: | 21-7400E | METHOD OF DRILLING: | Geoprobe |
| LOGGED BY: | J. Fraser, C. Greco | SAMPLING METHODS: | Macro-core Sampler |
| DATES DRILLED: | 07/17/02 | HAMMER WT./DROP | -- |

SURVEY LOCATION: E 694924.3 N 909639.5

GROUND SURFACE ELEVATION:632.7'

| SSS INTERVAL (ft) | SSS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|-------------------|-------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
|-------------------|-------------------|-----------|-----------|------------|-------------|------|------------------|------------------|



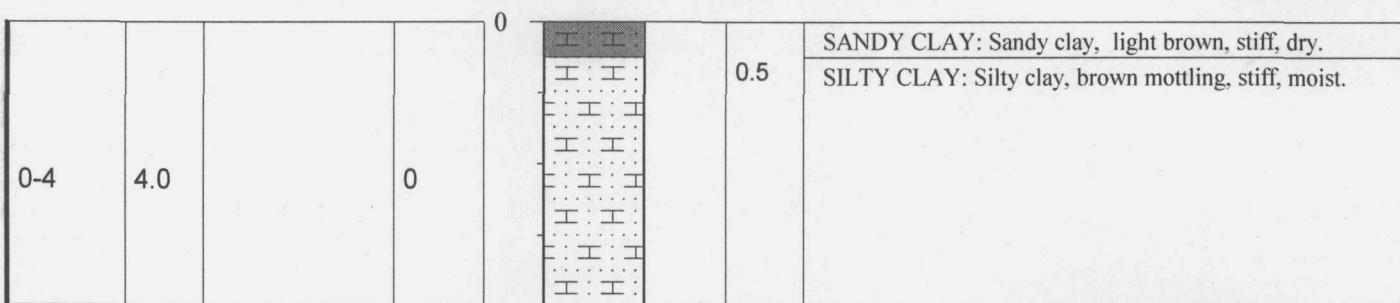
ENVIRON740 Waukegan Rd., Suite 401
Deerfield, Illinois 60015**GEOLOGIC DRILL LOG****BOREHOLE NO.: WA-4****TOTAL DEPTH: 4 feet**

PROJECT: **Eagle Zinc**
SITE LOCATION: **Hillsboro, IL**
JOB NO.: **21-7400E**
LOGGED BY: **J. Fraser, C. Greco**
DATES DRILLED: **07/17/02**

DRILLING CO.: **Philips**
RIG TYPE: **Direct Push**
METHOD OF DRILLING: **Geoprobe**
SAMPLING METHODS: **Macro-core Sampler**
HAMMER WT./DROP **--**

SURVEY LOCATION: E 694884.3 N 909532.5**GROUND SURFACE ELEVATION: 630.71'**

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|---|
| 0-4 | 4.0 | | 0 | 0 | | | 0.5 | SANDY CLAY: Sandy clay, light brown, stiff, dry. SILTY CLAY: Silty clay, brown mottling, stiff, moist. |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: **WA-5**

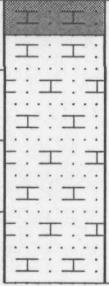
TOTAL DEPTH: **4 feet**

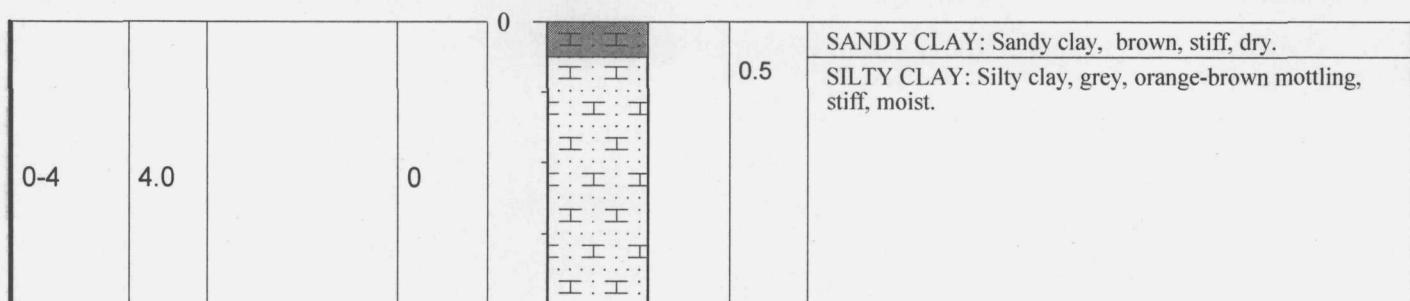
PROJECT: **Eagle Zinc**
SITE LOCATION: **Hillsboro, IL**
JOB NO.: **21-7400E**
LOGGED BY: **J. Fraser, C. Greco**
DATES DRILLED: **07/17/02**

DRILLING CO.: **Philips**
RIG TYPE: **Direct Push**
METHOD OF DRILLING: **Geoprobe**
SAMPLING METHODS: **Macro-core Sampler**
HAMMER WT./DROP --

SURVEY LOCATION: **E 695194.5 N909332.2**

GROUND SURFACE ELEVATION: **622.51'**

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|--|------|------------------|--|
| 0-4 | 4.0 | | 0 | 0 |  | | 0.5 | SANDY CLAY: Sandy clay, brown, stiff, dry. SILTY CLAY: Silty clay, grey, orange-brown mottling, stiff, moist. |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: WA-6

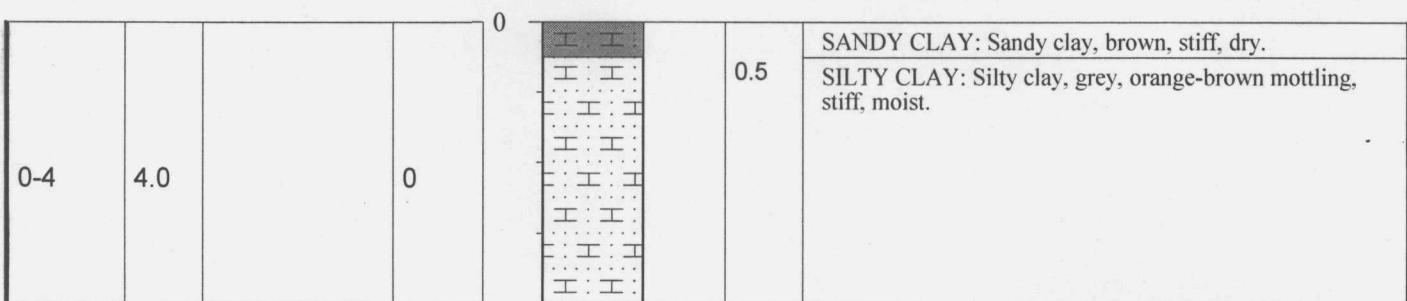
TOTAL DEPTH: 4 feet

| | | | |
|----------------|----------------------------|---------------------|---------------------------|
| PROJECT: | Eagle Zinc | DRILLING CO.: | Philips |
| SITE LOCATION: | Hillsboro, IL | RIG TYPE: | Direct Push |
| JOB NO.: | 21-7400E | METHOD OF DRILLING: | Geoprobe |
| LOGGED BY: | J. Fraser, C. Greco | SAMPLING METHODS: | Macro-core Sampler |
| DATES DRILLED: | 07/17/02 | HAMMER WT./DROP | -- |

SURVEY LOCATION: E695084.3 N 909212.5

GROUND SURFACE ELEVATION: 621.99'

| SOIL INTERVAL (ft) | SOSS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|--------------------|--------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
|--------------------|--------------------|-----------|-----------|------------|-------------|------|------------------|------------------|



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PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 07/17/02

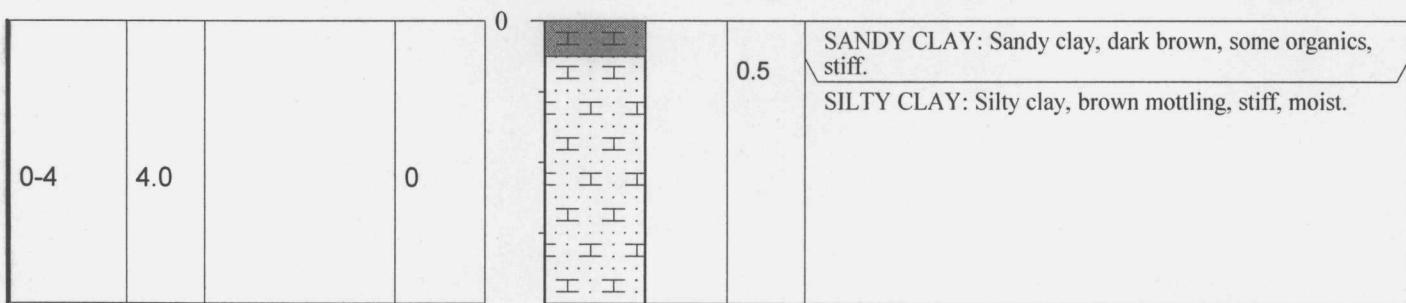
GEOLOGIC DRILL LOG

BOREHOLE NO.: WA-7

TOTAL DEPTH: 4 feet

SURVEY LOCATION: E 694960.7 N 909175.8

GROUND SURFACE ELEVATION: 625.44'



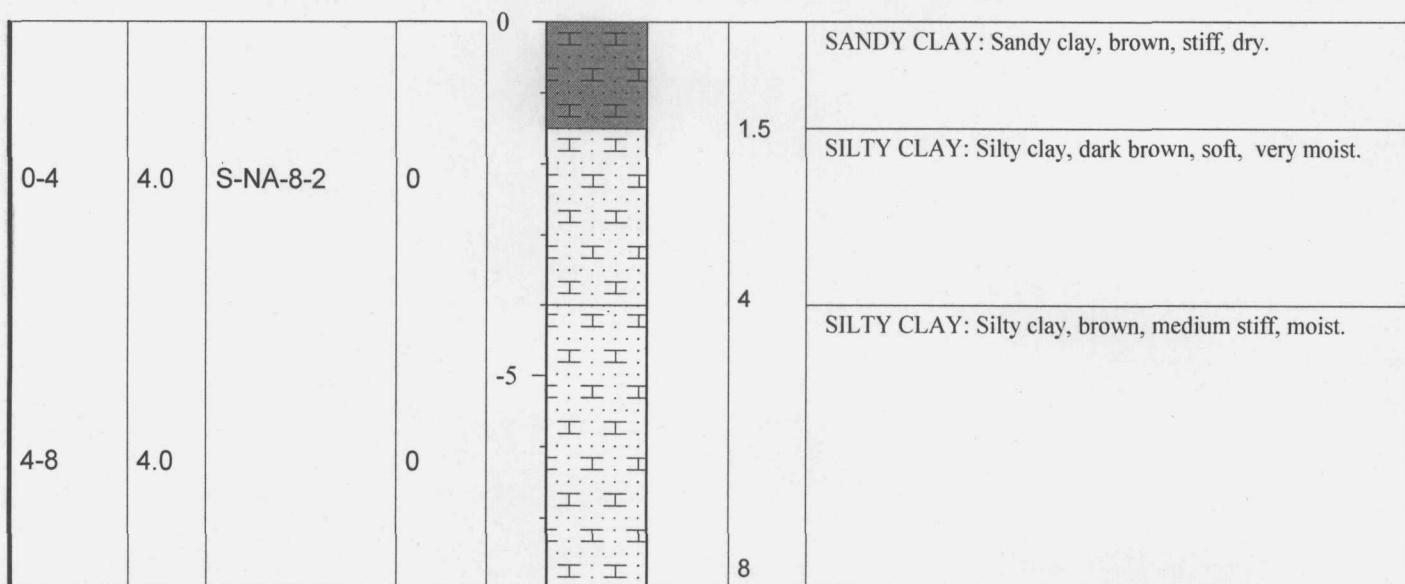
ENVIRON740 Waukegan Rd., Suite 401
Deerfield, Illinois 60015**GEOLOGIC DRILL LOG****BOREHOLE NO.: WA-8****TOTAL DEPTH: 8 feet**

PROJECT: **Eagle Zinc**
SITE LOCATION: **Hillsboro, IL**
JOB NO.: **21-7400E**
LOGGED BY: **J. Fraser, C. Greco**
DATES DRILLED: **07/17/02**

DRILLING CO.: **Philips**
RIG TYPE: **Direct Push**
METHOD OF DRILLING: **Geoprobe**
SAMPLING METHODS: **Macro-core Sampler**
HAMMER WT./DROP **--**

SURVEY LOCATION: E695084.9 N 908998**GROUND SURFACE ELEVATION: 619.4'**

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| | | | | | | | | |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: WA-9

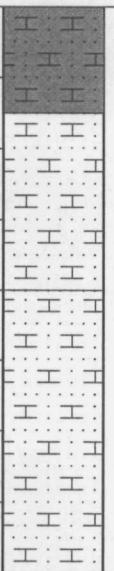
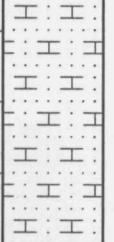
TOTAL DEPTH: 11 feet

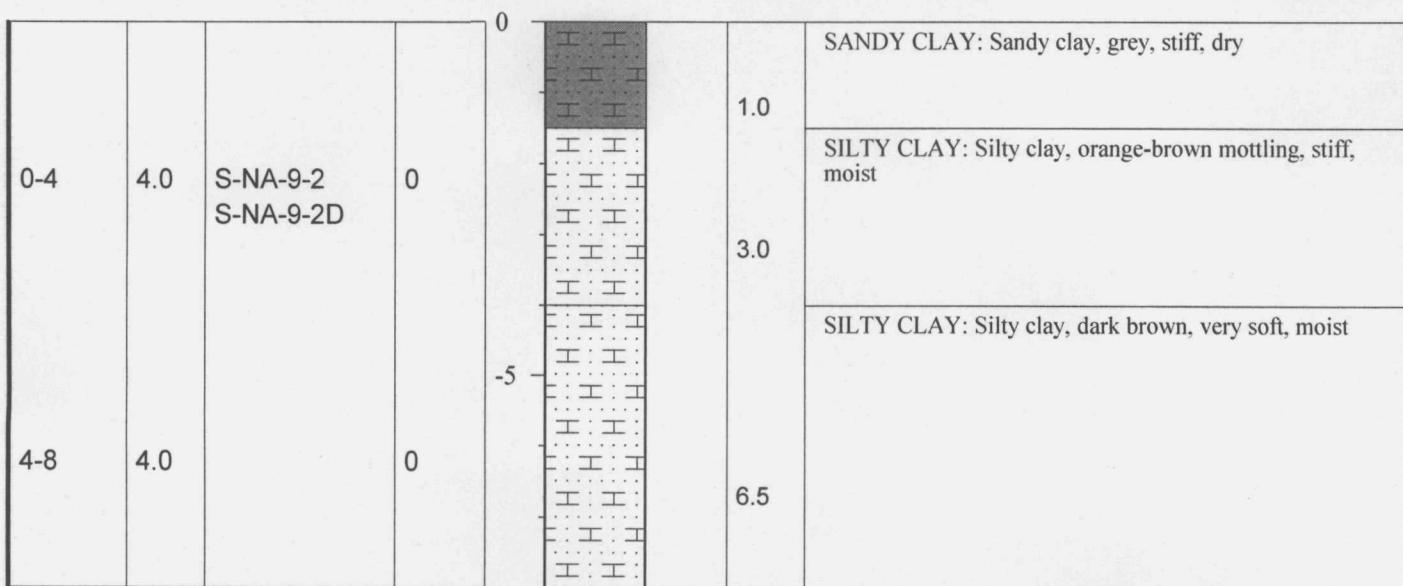
PROJECT: **Eagle Zinc**
SITE LOCATION: **Hillsboro, IL**
JOB NO.: **21-7400E**
LOGGED BY: **J. Fraser, C. Greco**
DATES DRILLED: **07/17/02**

DRILLING CO.: **Philips**
RIG TYPE: **Direct Push**
METHOD OF DRILLING: **Geoprobe**
SAMPLING METHODS: **Macro-core Sampler**
HAMMER WT./DROP --

SURVEY LOCATION: E695084.2 N 908578.5

GROUND SURFACE ELEVATION: 612.15

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------------------|-----------|------------|---|------|------------------|---|
| 0-4 | 4.0 | S-NA-9-2 S-NA-9-2D | 0 | 0 |  | | 0.0 - 4.0 | SANDY CLAY: Sandy clay, grey, stiff, dry |
| 4-8 | 4.0 | | 0 | -5 |  | | 4.0 - 8.0 | SILTY CLAY: Silty clay, orange-brown mottling, stiff, moist |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: WA-10

TOTAL DEPTH: 4 feet

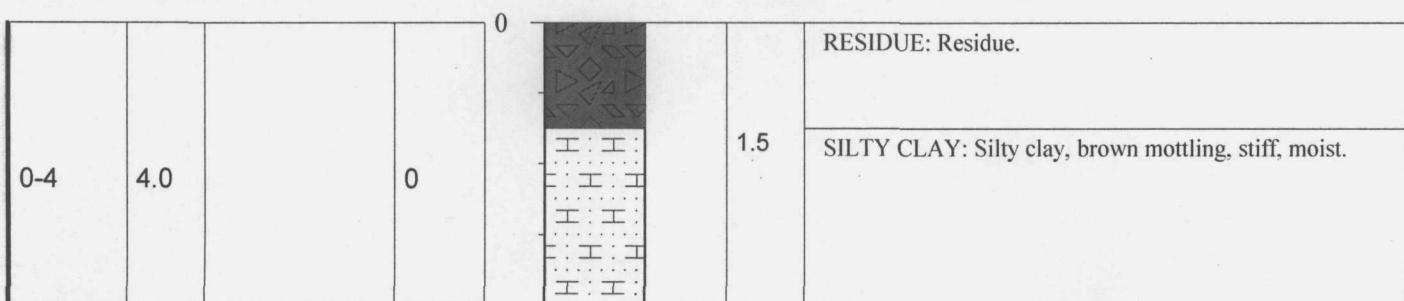
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 07/17/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E 695084.3 N 908372.5

GROUND SURFACE ELEVATION: 618.73'

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0-4 | 4.0 | | 0 | 0 | | | | |

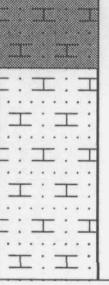


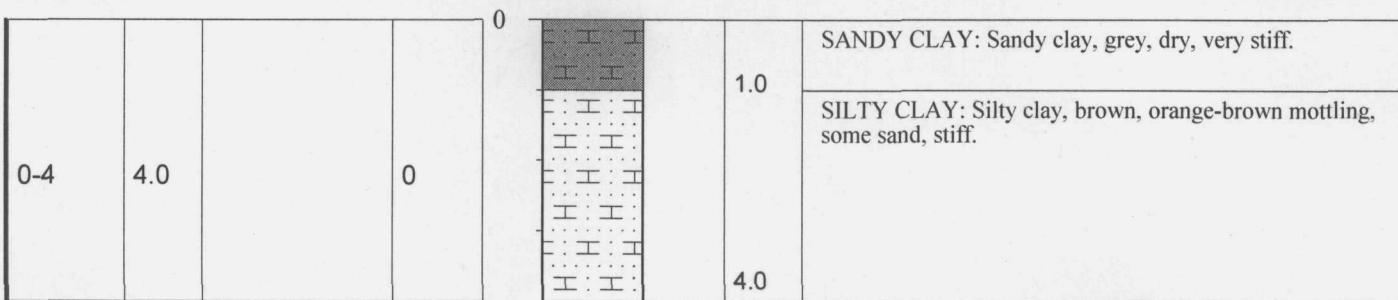
ENVIRON740 Waukegan Rd., Suite 401
Deerfield, Illinois 60015**GEOLOGIC DRILL LOG****BOREHOLE NO.: NA-1****TOTAL DEPTH: 4 feet**

PROJECT: **Eagle Zinc**
SITE LOCATION: **Hillsboro, IL**
JOB NO.: **21-7400E**
LOGGED BY: **J. Fraser, C. Greco**
DATES DRILLED: **07/17/02**

DRILLING CO.: **Philips**
RIG TYPE: **Direct Push**
METHOD OF DRILLING: **Geoprobe**
SAMPLING METHODS: **Macro-core Sampler**
HAMMER WT./DROP --

SURVEY LOCATION: E 695523.9, N910796.5**GROUND SURFACE ELEVATION: 627.56'**

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|--|------|------------------|--|
| 0-4 | 4.0 | | 0 | 0 |  | | 1.0 | SANDY CLAY: Sandy clay, grey, dry, very stiff. |

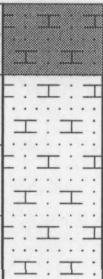


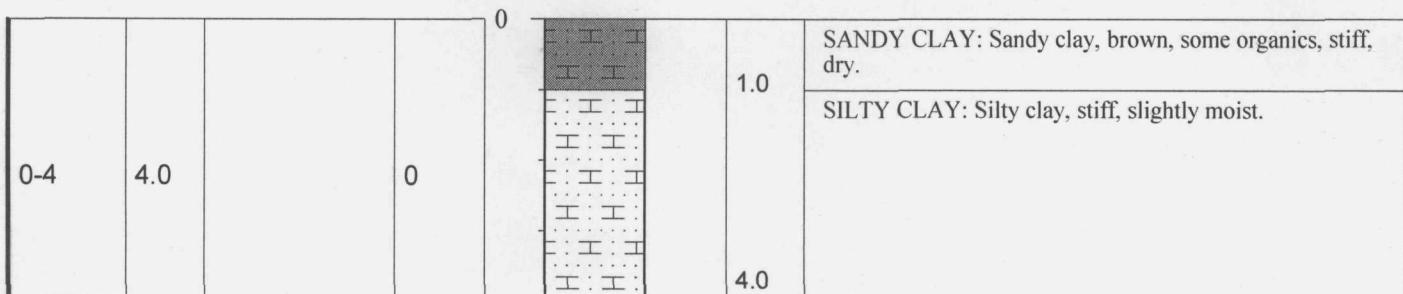
ENVIRON740 Waukegan Rd., Suite 401
Deerfield, Illinois 60015**GEOLOGIC DRILL LOG****BOREHOLE NO.: NA-2****TOTAL DEPTH: 4 feet**

PROJECT: **Eagle Zinc**
SITE LOCATION: **Hillsboro, IL**
JOB NO.: **21-7400E**
LOGGED BY: **J. Fraser, C. Greco**
DATES DRILLED: **07/17/02**

DRILLING CO.: **Philips**
RIG TYPE: **Direct Push**
METHOD OF DRILLING: **Geoprobe**
SAMPLING METHODS: **Macro-core Sampler**
HAMMER WT./DROP --

SURVEY LOCATION: E 694958 N 910696.2**GROUND SURFACE ELEVATION: 632.01'**

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|--|------|------------------|---|
| 0-4 | 4.0 | | 0 | 0 |  | | 0-1.0 | SANDY CLAY: Sandy clay, brown, some organics, stiff, dry. |



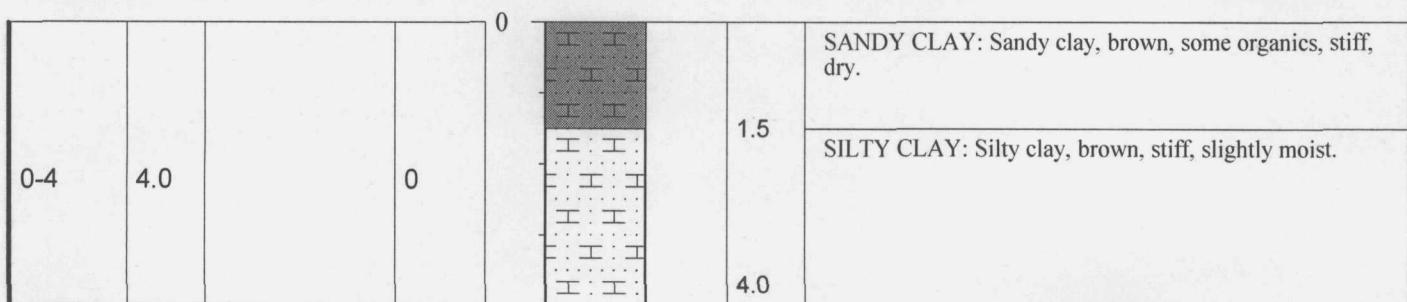
ENVIRON740 Waukegan Rd., Suite 401
Deerfield, Illinois 60015**GEOLOGIC DRILL LOG****BOREHOLE NO.: NA-3****TOTAL DEPTH: 4 feet**

PROJECT: **Eagle Zinc**
SITE LOCATION: **Hillsboro, IL**
JOB NO.: **21-7400E**
LOGGED BY: **J. Fraser, C. Greco**
DATES DRILLED: **07/17/02**

DRILLING CO.: **Philips**
RIG TYPE: **Direct Push**
METHOD OF DRILLING: **Geoprobe**
SAMPLING METHODS: **Macro-core Sampler**
HAMMER WT./DROP --

SURVEY LOCATION: E 695208 N 910496.2**GROUND SURFACE ELEVATION: 631.15'**

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|---|
| 0-4 | 4.0 | | 0 | 0 | | | 1.5 | SANDY CLAY: Sandy clay, brown, some organics, stiff, dry. |



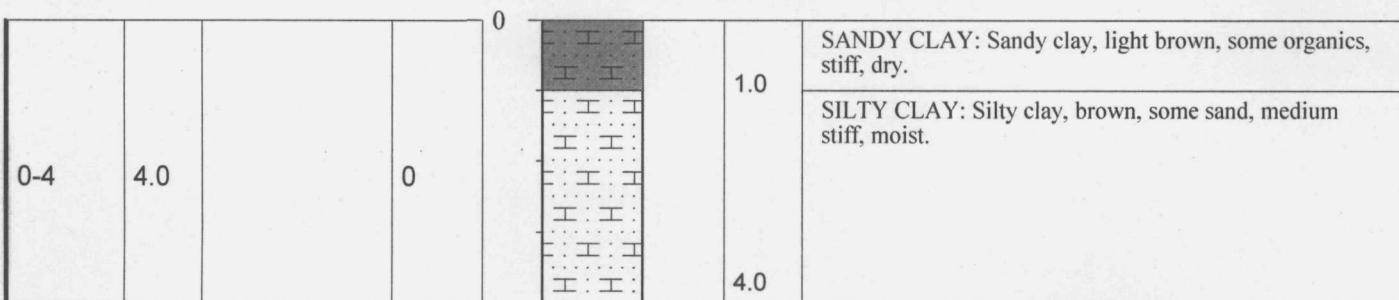
ENVIRON740 Waukegan Rd., Suite 401
Deerfield, Illinois 60015**GEOLOGIC DRILL LOG****BOREHOLE NO.: NA-4****TOTAL DEPTH: 4 feet**

PROJECT: **Eagle Zinc**
SITE LOCATION: **Hillsboro, IL**
JOB NO.: **21-7400E**
LOGGED BY: **J. Fraser, C. Greco**
DATES DRILLED: **07/17/02**

DRILLING CO.: **Philips**
RIG TYPE: **Direct Push**
METHOD OF DRILLING: **Geoprobe**
SAMPLING METHODS: **Macro-core Sampler**
HAMMER WT./DROP --

SURVEY LOCATION: E 696008 N 910496.2**GROUND SURFACE ELEVATION: 625.07'**

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|---|
| 0-4 | 4.0 | | 0 | 0 | | | 1.0 | SANDY CLAY: Sandy clay, light brown, some organics, stiff, dry. |



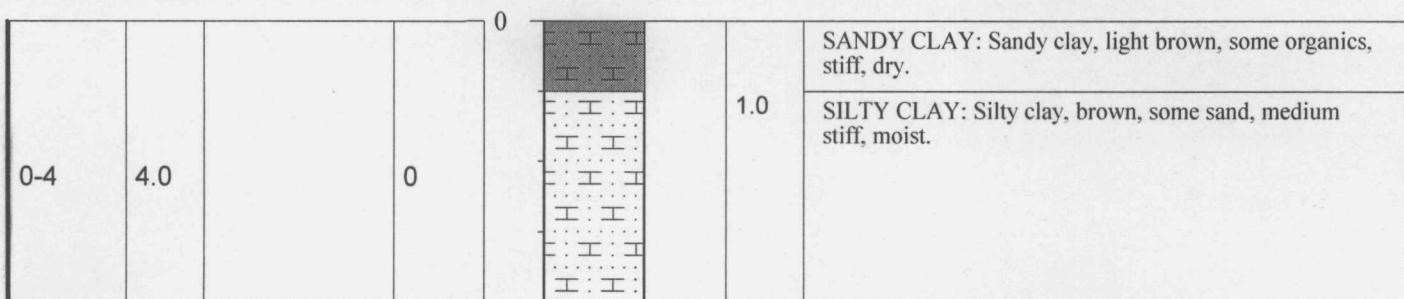
ENVIRON740 Waukegan Rd., Suite 401
Deerfield, Illinois 60015**GEOLOGIC DRILL LOG****BOREHOLE NO.: NA-5****TOTAL DEPTH: 4 feet**

PROJECT: **Eagle Zinc**
SITE LOCATION: **Hillsboro, IL**
JOB NO.: **21-7400E**
LOGGED BY: **J. Fraser, C. Greco**
DATES DRILLED: **07/17/02**

DRILLING CO.: **Philips**
RIG TYPE: **Direct Push**
METHOD OF DRILLING: **Geoprobe**
SAMPLING METHODS: **Macro-core Sampler**
HAMMER WT./DROP --

SURVEY LOCATION: E 696208 N 910496.2**GROUND SURFACE ELEVATION: 627.52'**

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|---|
| 0-4 | 4.0 | | 0 | 0 | | | 1.0 | SANDY CLAY: Sandy clay, light brown, some organics, stiff, dry. SILTY CLAY: Silty clay, brown, some sand, medium stiff, moist. |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: NA-6

TOTAL DEPTH: 4 feet

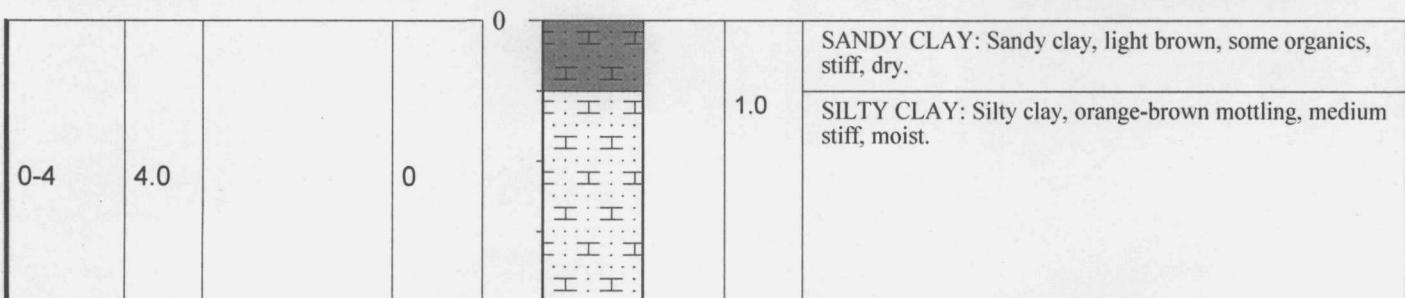
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 07/17/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E 696358 N 910346.2

GROUND SURFACE ELEVATION: 629.16'

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0-4 | 4.0 | | 0 | 0 | | | 1.0 | |



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| | |
|----------------|---------------------|
| PROJECT: | Eagle Zinc |
| SITE LOCATION: | Hillsboro, IL |
| JOB NO.: | 21-7400E |
| LOGGED BY: | J. Fraser, C. Greco |
| DATES DRILLED: | 07/17/02 |

GEOLOGIC DRILL LOG

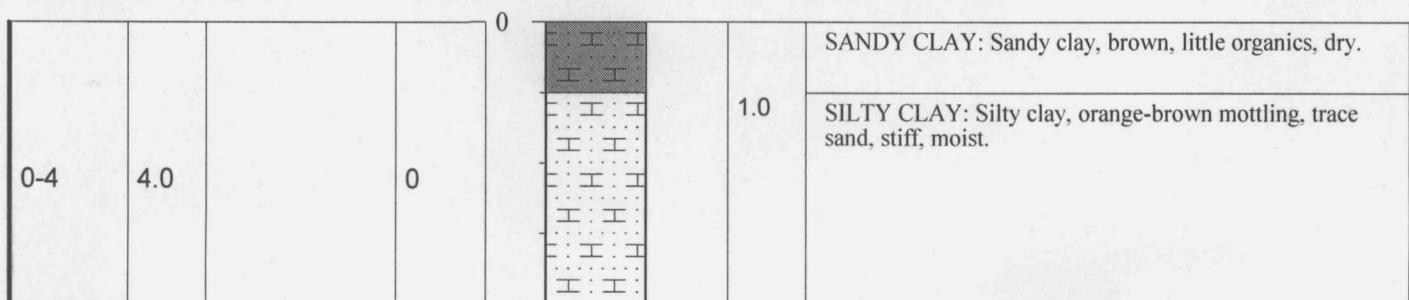
BOREHOLE NO.: **NA-7**

TOTAL DEPTH: 4 feet

SURVEY LOCATION: E 695734.9 N 910272.3

GROUND SURFACE ELEVATION: 627.68'

| SOIL INTERVAL (ft) | LOSS RECOVERY (%) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|--------------------|-------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
|--------------------|-------------------|-----------|-----------|------------|-------------|------|------------------|------------------|



ENVIRON

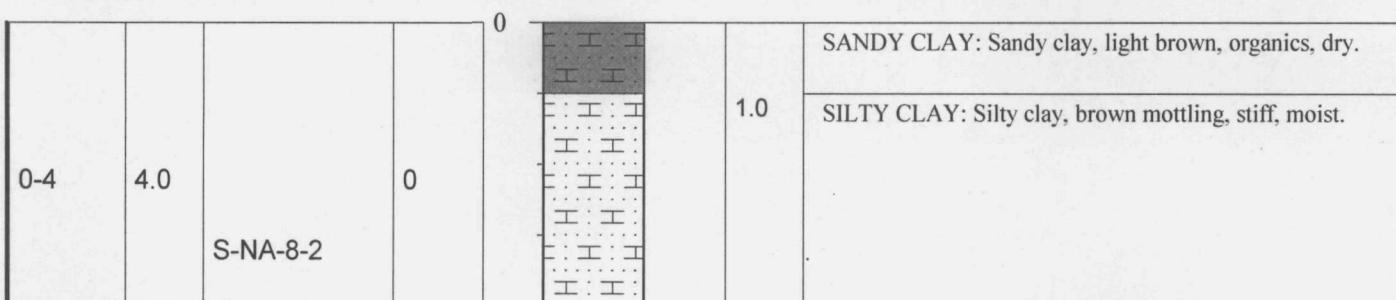
740 Waukegan Rd., Suite 401
Deerfield, Illinois 60015

GEOLOGIC DRILL LOG

BOREHOLE NO.: NA-8

TOTAL DEPTH: 4 feet

| PROJECT: | Eagle Zinc | DRILLING CO.: | Philips | |
|---------------------------------------|---------------------|-----------------------------------|--------------------|------------------|
| SITE LOCATION: | Hillsboro, IL | RIG TYPE: | Direct Push | |
| JOB NO.: | 21-7400E | METHOD OF DRILLING: | Geoprobe | |
| LOGGED BY: | J. Fraser, C. Greco | SAMPLING METHODS: | Macro-core Sampler | |
| DATES DRILLED: | 07/17/02 | HAMMER WT./DROP | -- | |
| SURVEY LOCATION: E696187.9 N 910246.3 | | GROUND SURFACE ELEVATION: 623.08' | | |
| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | SOIL DESCRIPTION | |
| PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: NA-9

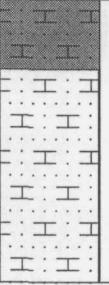
TOTAL DEPTH: 4 feet

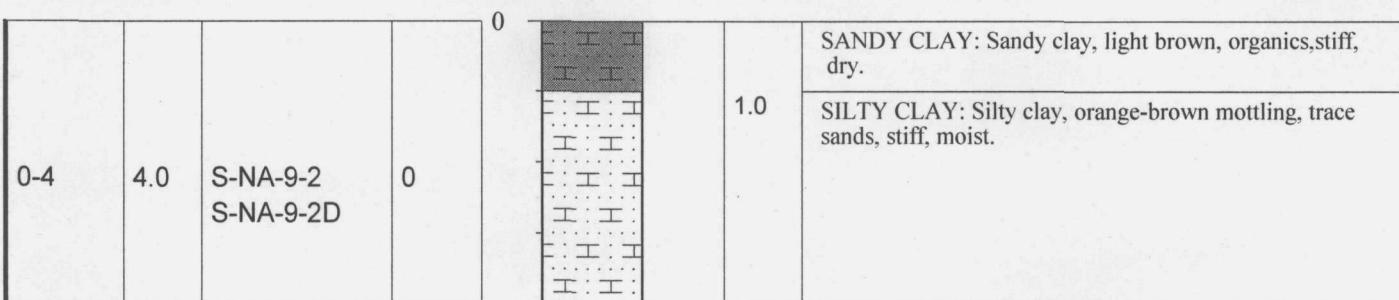
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 07/17/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E 696058 N 910046.2

GROUND SURFACE ELEVATION: 629.4'

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------------------|-----------|------------|--|------|------------------|--|
| 0-4 | 4.0 | S-NA-9-2 S-NA-9-2D | 0 | 0 |  | | 1.0 | SANDY CLAY: Sandy clay, light brown, organics,stiff, dry. SILTY CLAY: Silty clay, orange-brown mottling, trace sands, stiff, moist. |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: NA-10

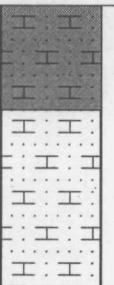
TOTAL DEPTH: 4 feet

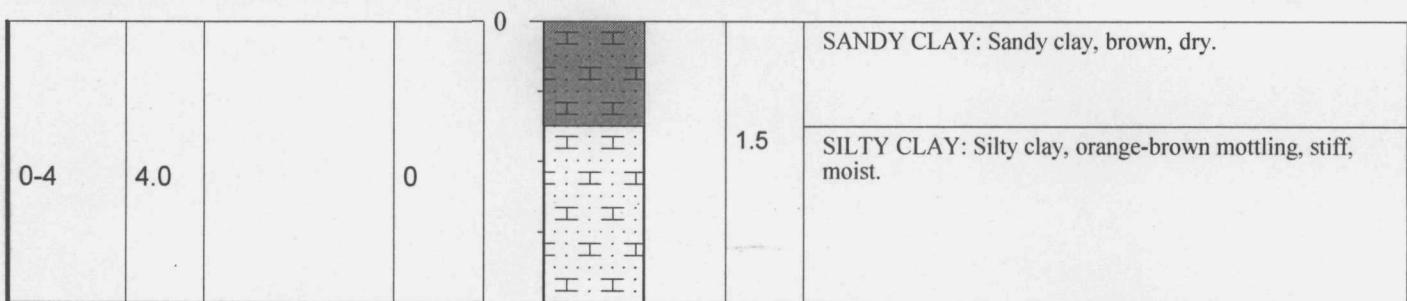
PROJECT: **Eagle Zinc**
SITE LOCATION: **Hillsboro, IL**
JOB NO.: **21-7400E**
LOGGED BY: **J. Fraser, C. Greco**
DATES DRILLED: **07/17/02**

DRILLING CO.: **Philips**
RIG TYPE: **Direct Push**
METHOD OF DRILLING: **Geoprobe**
SAMPLING METHODS: **Macro-core Sampler**
HAMMER WT./DROP --

SURVEY LOCATION: E 696465.8 N 910046.2

GROUND SURFACE ELEVATION: 627.38'

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|--|------|------------------|---|
| 0-4 | 4.0 | | 0 | 0 |  | | 0-1.5 | SANDY CLAY: Sandy clay, brown, dry. SILTY CLAY: Silty clay, orange-brown mottling, stiff, moist. |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: MA-1

TOTAL DEPTH: 4 feet

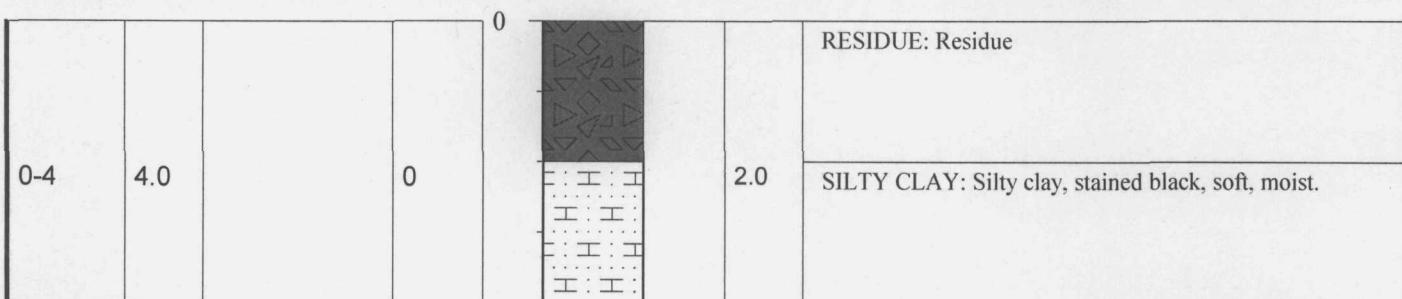
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 07/17/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E 695739.8, N 909920.5

GROUND SURFACE ELEVATION: 631.89'

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|---|
| 0-4 | 4.0 | | 0 | 0 | | | 2.0 | RESIDUE: Residue SILTY CLAY: Silty clay, stained black, soft, moist. |



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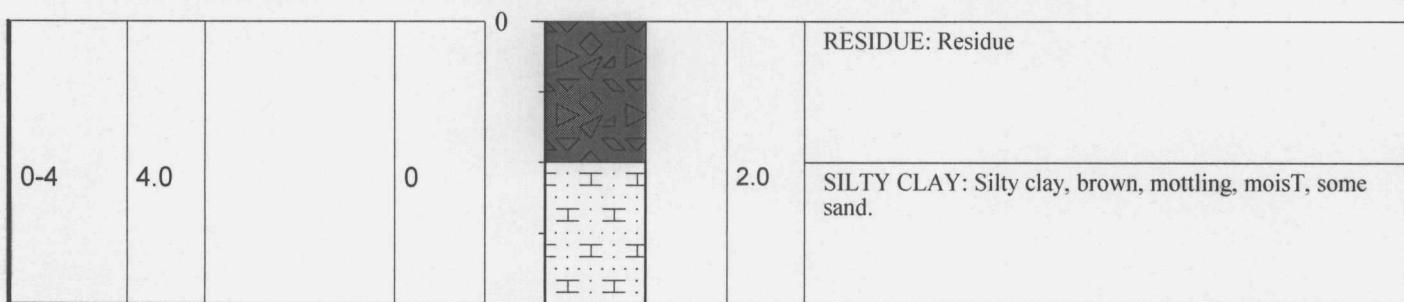
GEOLOGIC DRILL LOG**BOREHOLE NO.: MA-2****TOTAL DEPTH: 4 feet**

PROJECT: **Eagle Zinc**
SITE LOCATION: **Hillsboro, IL**
JOB NO.: **21-7400E**
LOGGED BY: **J. Fraser, C. Greco**
DATES DRILLED: **07/17/02**

DRILLING CO.: **Philips**
RIG TYPE: **Direct Push**
METHOD OF DRILLING: **Geoprobe**
SAMPLING METHODS: **Macro-core Sampler**
HAMMER WT./DROP --

SURVEY LOCATION: **E 696189.8, N 908570.5**GROUND SURFACE ELEVATION: **629.46'**

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|--|------|------------------|--|
| 0-4 | 4.0 | | 0 | 0 |  | | 2.0 | RESIDUE: Residue SILTY CLAY: Silty clay, brown, mottling, moist, some sand. |



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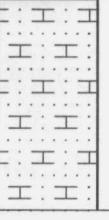
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Deerfield, Illinois 60015

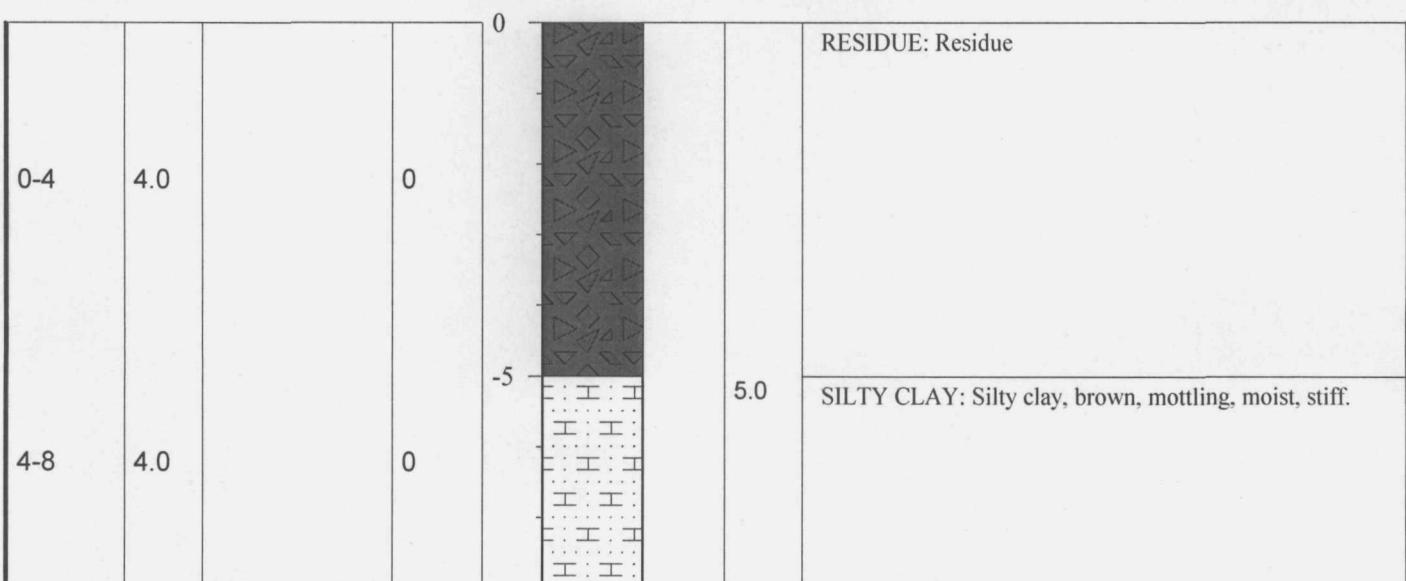
GEOLOGIC DRILL LOG**BOREHOLE NO.: MA-3****TOTAL DEPTH: 8 feet**

PROJECT: **Eagle Zinc**
SITE LOCATION: **Hillsboro, IL**
JOB NO.: **21-7400E**
LOGGED BY: **J. Fraser, C. Greco**
DATES DRILLED: **07/17/02**

DRILLING CO.: **Philips**
RIG TYPE: **Direct Push**
METHOD OF DRILLING: **Geoprobe**
SAMPLING METHODS: **Macro-core Sampler**
HAMMER WT./DROP --

SURVEY LOCATION: **E 695839.8, N 909620.5**GROUND SURFACE ELEVATION: **632.28'**

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|---|------|------------------|--|
| 0-4 | 4.0 | | 0 | 0 |  | | 5.0 | RESIDUE: Residue |
| 4-8 | 4.0 | | 0 | -5 |  | | | SILTY CLAY: Silty clay, brown, mottling, moist, stiff. |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: MA-4

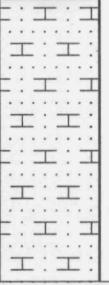
TOTAL DEPTH: 8 feet

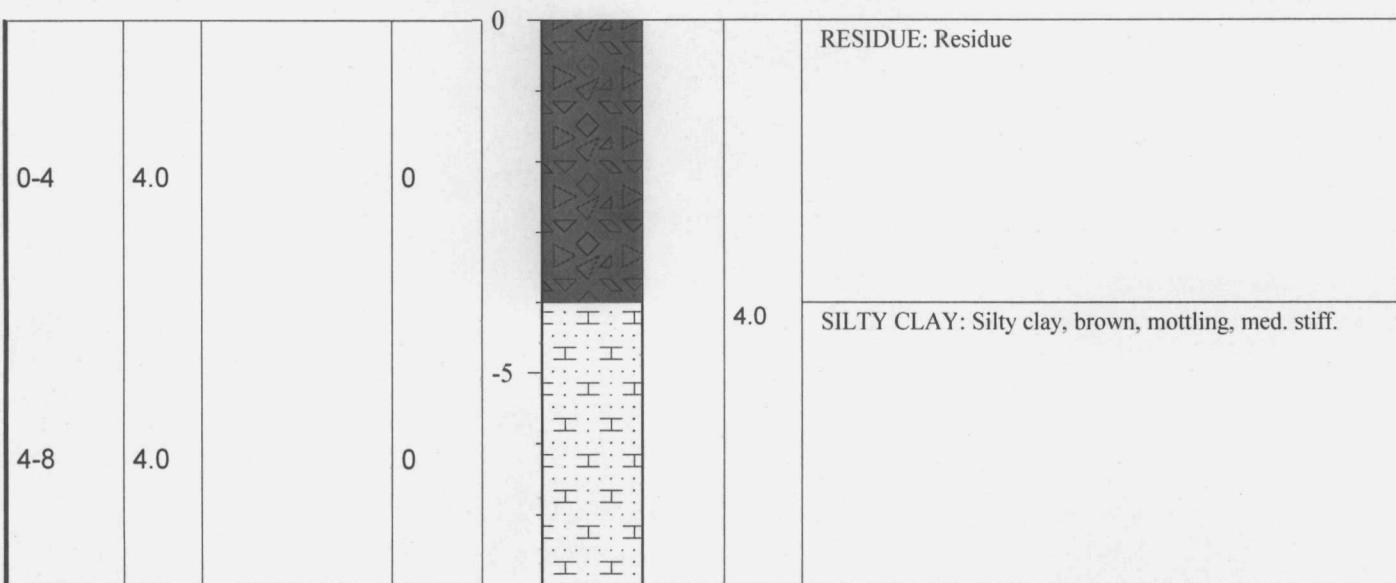
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 07/17/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E 695989.8, N 909258.1

GROUND SURFACE ELEVATION: 634.62'

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|---|------|------------------|--|
| 0-4 | 4.0 | | 0 | 0 |  | | 4.0 | RESIDUE: Residue |
| 4-8 | 4.0 | | 0 | -5 |  | | 4.0 | SILTY CLAY: Silty clay, brown, mottling, med. stiff. |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: MA-5

TOTAL DEPTH: 4 feet

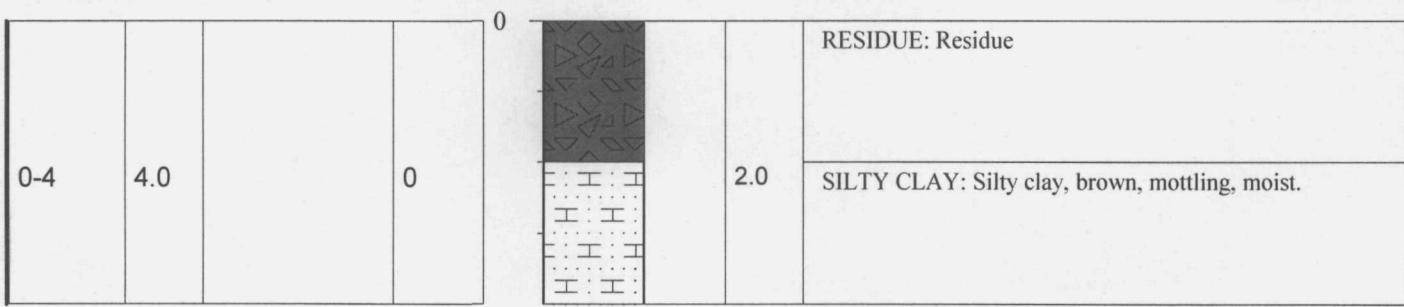
PROJECT: **Eagle Zinc**
SITE LOCATION: **Hillsboro, IL**
JOB NO.: **21-7400E**
LOGGED BY: **J. Fraser, C. Greco**
DATES DRILLED: **07/17/02**

DRILLING CO.: **Philips**
RIG TYPE: **Direct Push**
METHOD OF DRILLING: **Geoprobe**
SAMPLING METHODS: **Macro-core Sampler**
HAMMER WT./DROP --

SURVEY LOCATION: E 696189.8, N 909270.5

GROUND SURFACE ELEVATION: 631.96

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|--|------|------------------|---|
| 0-4 | 4.0 | | 0 | 0 |  | | 2.0 | RESIDUE: Residue SILTY CLAY: Silty clay, brown, mottling, moist. |



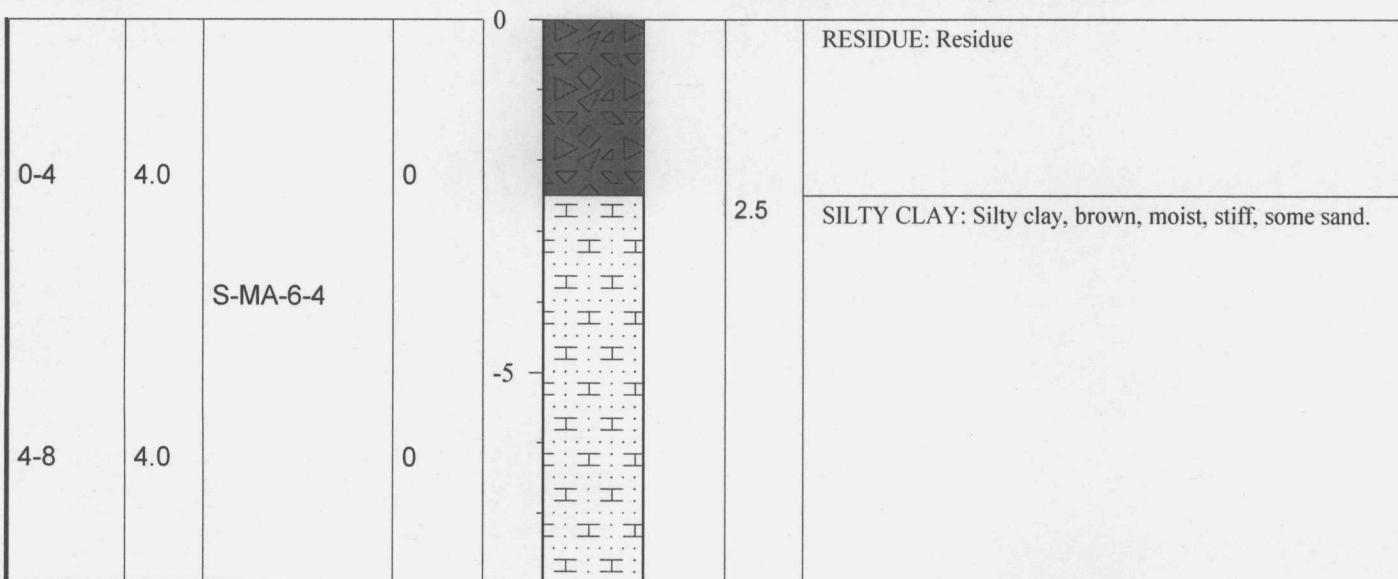
ENVIRON740 Waukegan Rd., Suite 401
Deerfield, Illinois 60015**GEOLOGIC DRILL LOG****BOREHOLE NO.: MA-6****TOTAL DEPTH: 8 feet**

PROJECT: **Eagle Zinc**
SITE LOCATION: **Hillsboro, IL**
JOB NO.: **21-7400E**
LOGGED BY: **J. Fraser, C. Greco**
DATES DRILLED: **07/17/02**

DRILLING CO.: **Philips**
RIG TYPE: **Direct Push**
METHOD OF DRILLING: **Geoprobe**
SAMPLING METHODS: **Macro-core Sampler**
HAMMER WT./DROP --

SURVEY LOCATION: E 695954.9, N 909005**GROUND SURFACE ELEVATION: 633.22'**

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|---|
| 0-4 | 4.0 | S-MA-6-4 | 0 | 0 | | | 2.5 | RESIDUE: Residue |
| 4-8 | 4.0 | | 0 | -5 | | | | SILTY CLAY: Silty clay, brown, moist, stiff, some sand. |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: MA-7

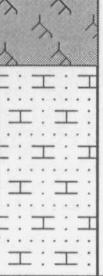
TOTAL DEPTH: 4 feet

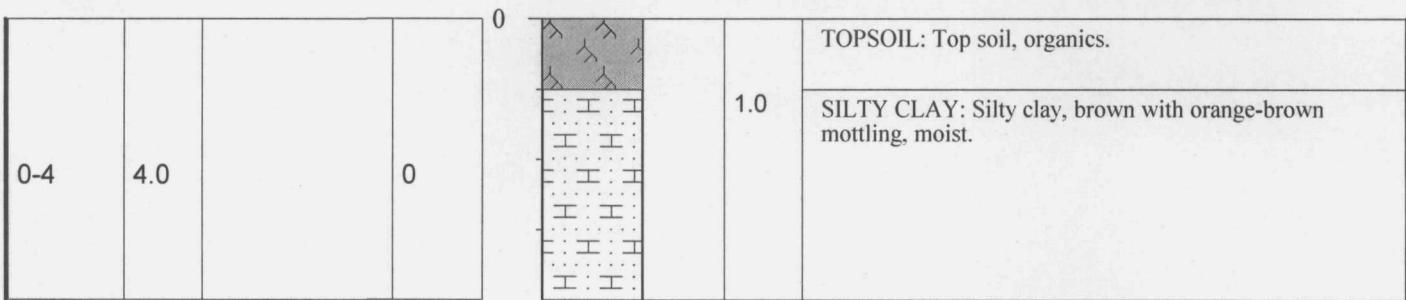
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 07/17/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E 696263.8, N 908820.5

GROUND SURFACE ELEVATION: 627.02'

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|--|------|------------------|--|
| 0-4 | 4.0 | | 0 | 0 |  | | 1.0 | TOPSOIL: Top soil, organics. SILTY CLAY: Silty clay, brown with orange-brown mottling, moist. |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: MA-8

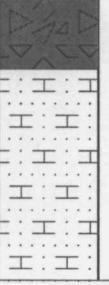
TOTAL DEPTH: 4 feet

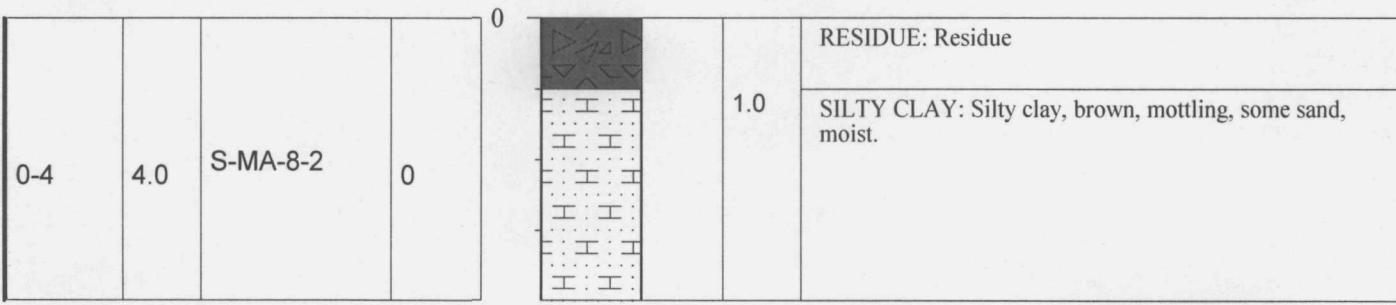
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 07/17/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E 695989.8, N 908756.9

GROUND SURFACE ELEVATION: 631.89'

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|--|------|------------------|--|
| 0-4 | 4.0 | S-MA-8-2 | 0 | 0 |  | | 1.0 | RESIDUE: Residue SILTY CLAY: Silty clay, brown, mottling, some sand, moist. |



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GEOLOGIC DRILL LOG

BOREHOLE NO.: MA-9

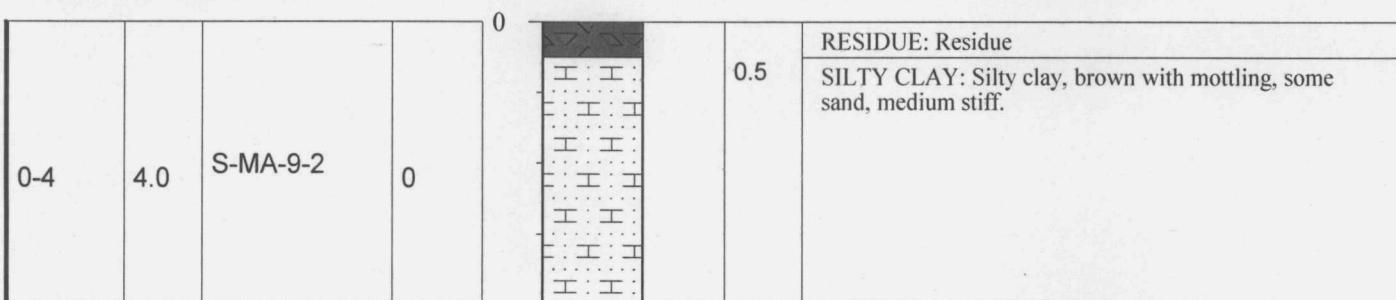
TOTAL DEPTH: 4 feet

| | | | |
|----------------|----------------------------|---------------------|---------------------------|
| PROJECT: | Eagle Zinc | DRILLING CO.: | Philips |
| SITE LOCATION: | Hillsboro, IL | RIG TYPE: | Direct Push |
| JOB NO.: | 21-7400E | METHOD OF DRILLING: | Geoprobe |
| LOGGED BY: | J. Fraser, C. Greco | SAMPLING METHODS: | Macro-core Sampler |
| DATES DRILLED: | 07/17/02 | HAMMER WT./DROP | -- |

SURVEY LOCATION: E 695989.8, N 908605.1

GROUND SURFACE ELEVATION:632.94'

| SSS INTERVAL (ft) | SSS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|-------------------|-------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
|-------------------|-------------------|-----------|-----------|------------|-------------|------|------------------|------------------|



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GEOLOGIC DRILL LOG

BOREHOLE NO.: MA-10

TOTAL DEPTH: 4 feet

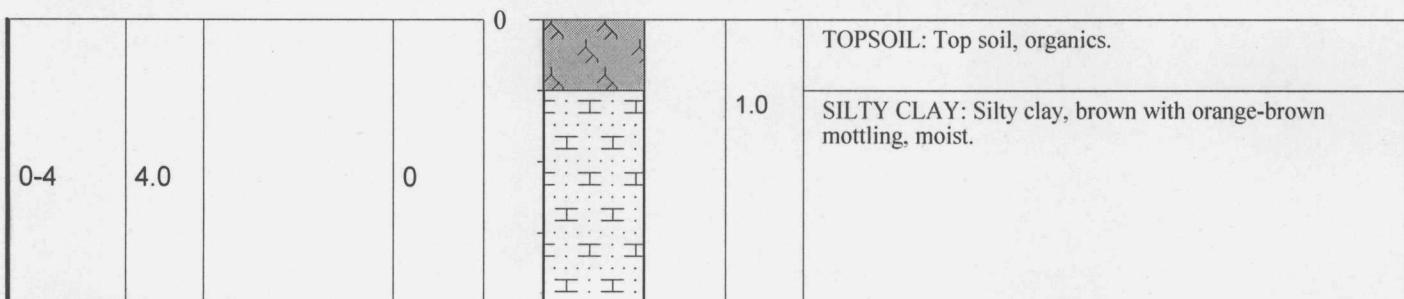
PROJECT: Eagle Zinc
SITE LOCATION: Hillsboro, IL
JOB NO.: 21-7400E
LOGGED BY: J. Fraser, C. Greco
DATES DRILLED: 07/17/02

DRILLING CO.: Philips
RIG TYPE: Direct Push
METHOD OF DRILLING: Geoprobe
SAMPLING METHODS: Macro-core Sampler
HAMMER WT./DROP --

SURVEY LOCATION: E 6963898, N 908570.5

GROUND SURFACE ELEVATION: 624.98'

| SS INTERVAL (ft) | SS RECOVERY (ft) | SAMPLE ID | PID (ppm) | DEPTH (ft) | GRAPHIC LOG | USCS | LAYER DEPTH (ft) | SOIL DESCRIPTION |
|------------------|------------------|-----------|-----------|------------|-------------|------|------------------|------------------|
| 0-4 | 4.0 | | 0 | 0 | | | | |



A P P E N D I X C

Raw XRF Screening Data

Appendix C: XRF Data for the Manufacturing Area
(Page 1 of 3)

| XLNo | Boring Location | Depth (ft) | Date | Mo | Mo Error | Zr | Zr Error | Sr | Sr Error | Rb | Rb Error | Pb | Pb Error | Se | Se Error | As | As Error | Hg | Hg Error | Zn | Zn Error | Cu |
|------|-----------------|------------|----------|------|----------|-------|----------|------|----------|-------|----------|-------|----------|------|----------|------|----------|------|----------|--------|----------|------|
| 54 | A1-1 | 2 | 07/16/02 | <LOD | 47.1 | 155.2 | 37.5 | <LOD | 37.05 | <LOD | 75.75 | <LOD | 51.45 | <LOD | 25.35 | <LOD | 43.2 | <LOD | 27.45 | 502 | 130 | <LOD |
| 57 | A1-1 | 4 | 07/16/02 | <LOD | 40.8 | 212.6 | 37.5 | 47.8 | 23 | 134 | 57.6 | <LOD | 44.25 | <LOD | 24.6 | <LOD | 34.95 | <LOD | 31.05 | 1109.6 | 150 | <LOD |
| 53 | A1-2 | 4 | 07/16/02 | <LOD | 45 | 138.9 | 32.6 | 50.4 | 24.1 | 143.7 | 61.3 | <LOD | 43.2 | <LOD | 23.4 | <LOD | 32.7 | <LOD | 27.9 | 604.8 | 120 | <LOD |
| 50 | A1-2 | 6 | 07/16/02 | <LOD | 42.75 | 123.5 | 32.3 | <LOD | 33.6 | 112.5 | 57.9 | <LOD | 45 | <LOD | 23.7 | <LOD | 37.65 | <LOD | 30.75 | <LOD | 117.75 | <LOD |
| 44 | A1-3 | 7 | 07/15/02 | <LOD | 45 | 92.2 | 30.3 | <LOD | 36 | 180.5 | 72.8 | <LOD | 54 | <LOD | 22.2 | <LOD | 40.5 | <LOD | 34.05 | 1040 | 180 | <LOD |
| 47 | A1-3 | 9 | 07/15/02 | <LOD | 55.35 | <LOD | 56.55 | <LOD | 50.7 | <LOD | 132.6 | <LOD | 98.1 | <LOD | 32.85 | <LOD | 71.1 | <LOD | 48.75 | 3888 | 520 | <LOD |
| 62 | A1-4 | 2 | 07/16/02 | <LOD | 45 | 211.6 | 38.3 | 41.1 | 22.7 | 146.3 | 60.7 | <LOD | 49.5 | <LOD | 26.4 | <LOD | 40.8 | <LOD | 23.25 | 210.6 | 86.3 | <LOD |
| 65 | A1-4 | 4 | 07/16/02 | <LOD | 48 | 183 | 37.2 | <LOD | 33.75 | 141.3 | 62.2 | <LOD | 56.25 | <LOD | 19.2 | <LOD | 40.2 | <LOD | 29.4 | 838.4 | 140 | <LOD |
| 58 | A1-5 | 2 | 07/16/02 | <LOD | 41.25 | 173.5 | 33.6 | 37.3 | 21.3 | 168.3 | 61.8 | <LOD | 39.6 | <LOD | 19.2 | <LOD | 38.85 | <LOD | 32.1 | 1739.2 | 190 | <LOD |
| 61 | A1-5 | 4 | 07/16/02 | <LOD | 45.9 | 214.4 | 37.7 | 61.4 | 24.4 | 109.3 | 53.1 | <LOD | 50.4 | <LOD | 13.35 | <LOD | 30.6 | <LOD | 26.4 | 1060 | 150 | <LOD |
| 38 | A1-6 | 9 | 07/15/02 | <LOD | 44.4 | 63.9 | 25.9 | <LOD | 32.85 | 119.1 | 59.6 | <LOD | 52.2 | <LOD | 28.95 | <LOD | 45.75 | <LOD | 48.45 | 9068.8 | 630 | <LOD |
| 41 | A1-6 | 11 | 07/15/02 | <LOD | 45.15 | 69.9 | 34.4 | 69.4 | 34.5 | <LOD | 101.55 | <LOD | 71.4 | <LOD | 32.55 | <LOD | 54.6 | <LOD | 42.45 | 1340 | 240 | <LOD |
| 11 | A1-7 | 3 | 07/15/02 | <LOD | 47.1 | 119.9 | 32.9 | 48.5 | 25.6 | 159.9 | 68.3 | <LOD | 66.9 | <LOD | 23.85 | <LOD | 62.25 | <LOD | 40.2 | 4748.8 | 400 | <LOD |
| 16 | A1-7 | 4 | 07/15/02 | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA |
| 91 | A1-8 | 2 | 07/16/02 | <LOD | 44.1 | 198.6 | 38.9 | <LOD | 31.5 | 156.4 | 65 | <LOD | 49.65 | <LOD | 23.55 | <LOD | 37.65 | <LOD | 24.15 | 1349.6 | 180 | <LOD |
| 95 | A1-8 | 3 | 07/16/02 | <LOD | 56.55 | 215.8 | 46.2 | 67.1 | 30.7 | 154.9 | 74.4 | <LOD | 57.3 | <LOD | 22.5 | <LOD | 47.4 | <LOD | 42.15 | 2068.8 | 260 | <LOD |
| 96 | A1-8 | 4 | 07/16/02 | <LOD | 96.9 | 204.6 | 75 | <LOD | 69.3 | 220.8 | 140 | <LOD | 85.35 | <LOD | 52.95 | <LOD | 73.65 | <LOD | 72.3 | 2520 | 490 | <LOD |
| 123 | A1-9 | 3 | 07/16/02 | <LOD | 49.2 | 221.6 | 40.8 | 53.4 | 25.1 | 211.8 | 74 | <LOD | 53.55 | <LOD | 22.05 | <LOD | 40.35 | <LOD | 29.85 | 2379.2 | 240 | <LOD |
| 124 | A1-9 | 5 | 07/16/02 | <LOD | 42.15 | 158.4 | 35.9 | <LOD | 31.5 | 165.7 | 68.3 | 124.5 | 57.9 | <LOD | 25.35 | <LOD | 66 | <LOD | 39 | 2849.6 | 280 | <LOD |
| 74 | A1-10 | 3 | 07/16/02 | <LOD | 47.7 | 254.8 | 43.8 | 72.1 | 27.4 | 146.8 | 63.9 | <LOD | 46.2 | <LOD | 25.2 | <LOD | 40.8 | <LOD | 32.85 | 979.2 | 150 | <LOD |
| 76 | A1-10 | 4 | 07/16/02 | <LOD | 45.45 | 241.8 | 38.4 | 62.5 | 23.7 | 128.5 | 54.5 | <LOD | 37.35 | <LOD | 21.3 | <LOD | 34.05 | <LOD | 23.7 | 1209.6 | 150 | <LOD |
| 79 | A1-11 | 2 | 07/16/02 | <LOD | 44.4 | 224.6 | 37.6 | 34.4 | 20.8 | 150 | 58.6 | <LOD | 51 | <LOD | 14.85 | <LOD | 38.1 | <LOD | 26.55 | 1149.6 | 150 | <LOD |
| 80 | A1-11 | 4 | 07/16/02 | <LOD | 46.8 | 229.4 | 39.4 | 46.1 | 23 | 137.4 | 58.7 | <LOD | 42 | <LOD | 22.95 | <LOD | 34.95 | <LOD | 27.75 | 1409.6 | 180 | <LOD |
| 30 | A1-12 | 4 | 07/15/02 | <LOD | 44.4 | 134.5 | 33.3 | <LOD | 34.5 | 179.1 | 69.9 | <LOD | 47.7 | <LOD | 24.15 | <LOD | 41.4 | <LOD | 37.8 | 2388.8 | 250 | <LOD |
| 31 | A1-12 | 6 | 07/15/02 | <LOD | 41.55 | 140.1 | 31.6 | 34 | 21.4 | 155.9 | 61.3 | <LOD | 50.1 | <LOD | 20.1 | <LOD | 43.2 | <LOD | 28.95 | 2459.2 | 240 | <LOD |
| 70 | A1-13 | 2 | 07/16/02 | <LOD | 42.6 | 170.2 | 36.6 | 40.6 | 23.9 | 160.1 | 66.5 | <LOD | 47.55 | <LOD | 23.85 | <LOD | 39.6 | <LOD | 34.5 | 1988.8 | 220 | <LOD |
| 73 | A1-13 | 4 | 07/16/02 | <LOD | 49.35 | 122.6 | 33 | <LOD | 32.25 | 99.6 | 56.5 | <LOD | 57 | <LOD | 24.15 | <LOD | 43.2 | <LOD | 28.65 | 1680 | 210 | <LOD |
| 83 | A1-14 | 6 | 07/16/02 | <LOD | 46.05 | 228.6 | 39.2 | 53.7 | 23.9 | 123.9 | 56.3 | <LOD | 50.1 | <LOD | 21.3 | <LOD | 40.2 | <LOD | 22.95 | 1520 | 180 | <LOD |
| 84 | A1-14 | 8 | 07/16/02 | <LOD | 42.75 | 206.6 | 36.5 | 51.2 | 23 | 114.8 | 53.3 | <LOD | 52.2 | <LOD | 20.4 | <LOD | 43.2 | <LOD | 29.7 | 1800 | 190 | <LOD |
| 87 | A1-15 | 11 | 07/16/02 | <LOD | 50.25 | 102.5 | 31 | <LOD | 32.25 | 98.4 | 56.7 | <LOD | 50.1 | <LOD | 25.2 | <LOD | 45.45 | <LOD | 33.9 | 2828.8 | 290 | <LOD |
| 88 | A1-15 | 12 | 07/16/02 | <LOD | 37.35 | 87.8 | 28.2 | 43.6 | 23.7 | 184.4 | 69.3 | <LOD | 48.15 | <LOD | 23.4 | <LOD | 40.8 | <LOD | 28.2 | 618.4 | 130 | <LOD |
| 26 | A1-16 | 9 | 07/15/02 | <LOD | 45.3 | 57.7 | 28.3 | 66 | 29.7 | 224.4 | 84.4 | <LOD | 53.4 | <LOD | 29.85 | <LOD | 48 | <LOD | 37.5 | 1449.6 | 210 | <LOD |
| 28 | A1-16 | 11 | 07/15/02 | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA |
| 20 | A1-17 | 5 | 07/15/02 | <LOD | 44.7 | 113.5 | 32.9 | <LOD | 36.75 | 112.5 | 60.7 | <LOD | 61.05 | <LOD | 26.85 | <LOD | 47.85 | <LOD | 39 | 3289.6 | 320 | <LOD |
| 22 | A1-17 | 8 | 07/15/02 | <LOD | 42.6 | 106.7 | 31.4 | < | | | | | | | | | | | | | | |

Appendix C: XRF Data for the Manufacturing Area
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| XLNo | Boring Location | Depth (ft) | Date | Cu Error | Ni | Ni Error | Co | Co Error | Fe | Fe Error | Mn | Mn Error | Cr | Cr Error | Eu | Eu Error | La | La Error | Ba | Ba Error | Cs | |
|------|-----------------|------------|----------|----------|--------|----------|-----|----------|--------|----------|--------|----------|------|----------|------|----------|--------|----------|--------|----------|------|------|
| 54 | A1-1 | 2 | 07/16/02 | 225 | <LOD | | 360 | <LOD | 420 | 6499.2 | 780 | <LOD | 645 | <LOD | 660 | <LOD | 1050 | <LOD | 19.35 | <LOD | 420 | <LOD |
| 57 | A1-1 | 4 | 07/16/02 | 210 | <LOD | | 270 | <LOD | 480 | 14400 | 1100 | <LOD | 780 | <LOD | 735 | <LOD | 510 | <LOD | 195 | <LOD | 420 | <LOD |
| 53 | A1-2 | 4 | 07/16/02 | 180 | <LOD | | 240 | <LOD | 540 | 18099.2 | 1300 | <LOD | 885 | <LOD | 735 | <LOD | 825 | <LOD | 141.3 | <LOD | 345 | <LOD |
| 50 | A1-2 | 6 | 07/16/02 | 195 | <LOD | | 285 | <LOD | 465 | 10400 | 980 | <LOD | 765 | <LOD | 705 | <LOD | 1304.4 | <LOD | 112.65 | <LOD | 345 | <LOD |
| 44 | A1-3 | 7 | 07/15/02 | 300 | 2499.2 | | 370 | <LOD | 525 | 12499.2 | 1100 | <LOD | 855 | <LOD | 780 | <LOD | 345 | <LOD | 19.8 | <LOD | 450 | <LOD |
| 47 | A1-3 | 9 | 07/15/02 | 525 | 2960 | | 570 | <LOD | 600 | 7436.8 | 1200 | <LOD | 975 | <LOD | 1185 | <LOD | 675 | <LOD | 180 | <LOD | 330 | <LOD |
| 62 | A1-4 | 2 | 07/16/02 | 180 | <LOD | | 285 | <LOD | 405 | 8396.8 | 800 | <LOD | 705 | <LOD | 735 | <LOD | 900 | <LOD | 15.9 | <LOD | 405 | <LOD |
| 65 | A1-4 | 4 | 07/16/02 | 195 | <LOD | | 270 | <LOD | 555 | 17292.8 | 1300 | <LOD | 900 | <LOD | 795 | <LOD | 615 | <LOD | 14.7 | <LOD | 345 | <LOD |
| 58 | A1-5 | 2 | 07/16/02 | 225 | <LOD | | 270 | <LOD | 555 | 21299.2 | 1400 | <LOD | 960 | <LOD | 840 | <LOD | 1095 | <LOD | 315 | <LOD | 615 | <LOD |
| 61 | A1-5 | 4 | 07/16/02 | 225 | <LOD | | 300 | <LOD | 540 | 16396.8 | 1200 | <LOD | 825 | <LOD | 720 | <LOD | 870 | <LOD | 315 | <LOD | 465 | <LOD |
| 38 | A1-6 | 9 | 07/15/02 | 420 | 412 | | 240 | <LOD | 525 | 15193.6 | 1300 | <LOD | 930 | <LOD | 855 | <LOD | 810 | <LOD | 270 | <LOD | 780 | <LOD |
| 41 | A1-6 | 11 | 07/15/02 | 360 | 1840 | | 410 | <LOD | 525 | 9107.2 | 1100 | <LOD | 915 | <LOD | 1020 | <LOD | 960 | <LOD | 57.75 | <LOD | 210 | <LOD |
| 11 | A1-7 | 3 | 07/15/02 | 360 | <LOD | | 345 | <LOD | 750 | 30694.4 | 2099.2 | 2428.8 | 920 | <LOD | 1050 | NA | NA | NA | NA | NA | NA | NA |
| 16 | A1-7 | 4 | 07/15/02 | NA | NA | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 900 | <LOD | 57.75 | <LOD | 2400 | <LOD |
| 91 | A1-8 | 2 | 07/16/02 | 255 | <LOD | | 315 | <LOD | 450 | 8934.4 | 889.6 | 1729.6 | 600 | <LOD | 750 | <LOD | 1260 | <LOD | 23.25 | <LOD | 555 | <LOD |
| 95 | A1-8 | 3 | 07/16/02 | 300 | <LOD | | 390 | <LOD | 615 | 16499.2 | 1500 | <LOD | 945 | <LOD | 885 | <LOD | 705 | <LOD | 43.95 | <LOD | 390 | <LOD |
| 96 | A1-8 | 4 | 07/16/02 | 615 | 2720 | | 710 | <LOD | 1334.4 | 28390.4 | 3699.2 | <LOD | 2100 | <LOD | 2100 | <LOD | 870 | <LOD | 19.65 | <LOD | 585 | <LOD |
| 123 | A1-9 | 3 | 07/16/02 | 255 | <LOD | | 270 | <LOD | 555 | 17395.2 | 1300 | <LOD | 915 | <LOD | 825 | <LOD | 1215 | <LOD | 18.6 | <LOD | 360 | <LOD |
| 124 | A1-9 | 5 | 07/16/02 | 300 | 862.4 | | 270 | <LOD | 585 | 18790.4 | 1500 | <LOD | 945 | <LOD | 945 | <LOD | 1170 | <LOD | 19.35 | <LOD | 330 | <LOD |
| 74 | A1-10 | 3 | 07/16/02 | 210 | <LOD | | 300 | <LOD | 510 | 15398.4 | 1200 | <LOD | 825 | <LOD | 780 | <LOD | 780 | <LOD | 150 | <LOD | 465 | <LOD |
| 76 | A1-10 | 4 | 07/16/02 | 210 | <LOD | | 255 | 525.2 | 340 | 16192 | 1200 | <LOD | 810 | <LOD | 675 | <LOD | 540 | <LOD | 165 | <LOD | 495 | <LOD |
| 79 | A1-11 | 2 | 07/16/02 | 195 | <LOD | | 270 | <LOD | 495 | 14489.6 | 1100 | <LOD | 795 | <LOD | 720 | <LOD | 615 | <LOD | 133.2 | <LOD | 330 | <LOD |
| 80 | A1-11 | 4 | 07/16/02 | 225 | <LOD | | 315 | <LOD | 555 | 16998.4 | 1300 | <LOD | 885 | <LOD | 735 | <LOD | 375 | <LOD | 255 | <LOD | 405 | <LOD |
| 30 | A1-12 | 4 | 07/15/02 | 255 | <LOD | | 300 | <LOD | 690 | 28083.2 | 2000 | <LOD | 1125 | <LOD | 975 | <LOD | 555 | <LOD | 13.2 | <LOD | 210 | <LOD |
| 31 | A1-12 | 6 | 07/15/02 | 240 | <LOD | | 255 | <LOD | 495 | 17600 | 1300 | <LOD | 855 | <LOD | 795 | <LOD | 855 | <LOD | 165 | <LOD | 465 | <LOD |
| 70 | A1-13 | 2 | 07/16/02 | 255 | <LOD | | 315 | <LOD | 525 | 14092.8 | 1200 | 1409.6 | 650 | <LOD | 900 | <LOD | 690 | <LOD | 20.4 | <LOD | 435 | <LOD |
| 73 | A1-13 | 4 | 07/16/02 | 285 | 478.4 | | 250 | <LOD | 585 | 15590.4 | 1300 | 1240 | 680 | <LOD | 915 | <LOD | 750 | <LOD | 150 | <LOD | 360 | <LOD |
| 83 | A1-14 | 6 | 07/16/02 | 210 | <LOD | | 225 | <LOD | 510 | 17600 | 1300 | <LOD | 870 | <LOD | 780 | <LOD | 960 | <LOD | 375 | <LOD | 480 | <LOD |
| 84 | A1-14 | 8 | 07/16/02 | 240 | <LOD | | 270 | <LOD | 495 | 17792 | 1300 | <LOD | 855 | <LOD | 720 | <LOD | 690 | <LOD | 210 | <LOD | 435 | <LOD |
| 87 | A1-15 | 11 | 07/16/02 | 300 | <LOD | | 330 | <LOD | 585 | 19097.6 | 1500 | <LOD | 990 | <LOD | 900 | <LOD | 1244.4 | <LOD | 195 | <LOD | 315 | <LOD |
| 88 | A1-15 | 12 | 07/16/02 | 225 | 326.4 | | 210 | <LOD | 420 | 8454.4 | 840 | <LOD | 645 | <LOD | 645 | <LOD | 1185 | <LOD | 210 | <LOD | 375 | <LOD |
| 26 | A1-16 | 9 | 07/15/02 | 285 | <LOD | | 360 | <LOD | 420 | 8544 | 940 | 983.2 | 580 | <LOD | 780 | <LOD | 510 | <LOD | 14.1 | <LOD | 300 | <LOD |
| 28 | A1-16 | 11 | 07/15/02 | NA | NA | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 735 | <LOD | 21.15 | <LOD | 495 | <LOD |
| 20 | A1-17 | 5 | 07/15/02 | 330 | <LOD | | 375 | <LOD | 615 | 16499.2 | 1400 | 1360 | 710 | <LOD | 915 | <LOD | 855 | <LOD | 180 | <LOD | 420 | <LOD |
| 22 | A1-17 | 8 | 07/15/02 | 255 | <LOD | | 345 | <LOD | 600 | 18099.2 | 1500 | <LOD | 1005 | <LOD | 855 | <LOD | 840 | <LOD | 17.1 | <LOD | 510 | <LOD |
| 103 | A1-19 | 13 | 07/16/02 | 195 | <LOD | | 300 | <LOD | 480 | 12499.2 | 1100 | <LOD | 750 | <LOD | 780 | <LOD | 465 | <LOD | 14.55 | <LOD | 270 | <LOD |
| 104 | | | | | | | | | | | | | | | | | | | | | | |

Appendix C: XRF Data for the Manufacturing Area
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| XLNo | Boring Location | Depth (ft) | Date | Cs Error | Te | Te Error | Sb | Sb Error | Sn | Sn Error | Cd | Cd Error | Ag | Ag Error | Pd | Pd Error |
|------|-----------------|------------|----------|-------------|----|-------------|----|-------------|----|-----------|----|-------------|----|-------------|----|----------|
| 54 | A1-1 | 2 | 07/16/02 | 165 <LOD | | 48.3 <LOD | | 56.85 <LOD | | 780 <LOD | | 225 <LOD | | 300 <LOD | | 134.1 |
| 57 | A1-1 | 4 | 07/16/02 | 225 <LOD | | 180 <LOD | | 36.75 <LOD | | 675 <LOD | | 27.15 <LOD | | 210 <LOD | | 74.4 |
| 53 | A1-2 | 4 | 07/16/02 | 165 <LOD | | 117.75 <LOD | | 40.2 <LOD | | 615 <LOD | | 102.45 <LOD | | 225 <LOD | | 66.45 |
| 50 | A1-2 | 6 | 07/16/02 | 21 <LOD | | 21.3 <LOD | | 40.05 <LOD | | 750 <LOD | | 148.2 <LOD | | 360 <LOD | | 10.65 |
| 44 | A1-3 | 7 | 07/15/02 | 180 <LOD | | 50.85 <LOD | | 41.25 <LOD | | 870 <LOD | | 36.75 <LOD | | 330 <LOD | | 29.7 |
| 47 | A1-3 | 9 | 07/15/02 | 165 <LOD | | 210 <LOD | | 150 <LOD | | 720 <LOD | | 30.6 <LOD | | 300 <LOD | | 56.25 |
| 62 | A1-4 | 2 | 07/16/02 | 195 <LOD | | 20.55 <LOD | | 26.85 <LOD | | 615 <LOD | | 8.7 <LOD | | 270 <LOD | | 90.6 |
| 65 | A1-4 | 4 | 07/16/02 | 33.15 <LOD | | 150 <LOD | | 35.25 <LOD | | 600 <LOD | | 91.65 <LOD | | 180 <LOD | | 60.75 |
| 58 | A1-5 | 2 | 07/16/02 | 180 <LOD | | 69 <LOD | | 180 <LOD | | 840 <LOD | | 150 <LOD | | 285 <LOD | | 104.1 |
| 61 | A1-5 | 4 | 07/16/02 | 46.35 <LOD | | 165 <LOD | | 180 <LOD | | 645 <LOD | | 143.25 <LOD | | 255 <LOD | | 93.9 |
| 38 | A1-6 | 9 | 07/15/02 | 225 <LOD | | 61.2 <LOD | | 225 <LOD | | 870 <LOD | | 225 <LOD | | 300 <LOD | | 35.85 |
| 41 | A1-6 | 11 | 07/15/02 | 24.15 <LOD | | 141.45 <LOD | | 59.1 <LOD | | 585 <LOD | | 6.15 <LOD | | 195 <LOD | | 5.4 |
| 11 | A1-7 | 3 | 07/15/02 | NA | | NA | | NA | | NA | | NA | | NA | | NA |
| 16 | A1-7 | 4 | 07/15/02 | 1484.4 <LOD | | 97.95 <LOD | | 94.35 <LOD | | 2700 <LOD | | 30.9 <LOD | | 330 <LOD | | 7.65 |
| 91 | A1-8 | 2 | 07/16/02 | 50.25 <LOD | | 285 <LOD | | 47.25 <LOD | | 1050 <LOD | | 55.2 <LOD | | 240 <LOD | | 6.9 |
| 95 | A1-8 | 3 | 07/16/02 | 140.85 <LOD | | 225 <LOD | | 34.2 <LOD | | 705 <LOD | | 8.1 <LOD | | 240 <LOD | | 6.6 |
| 96 | A1-8 | 4 | 07/16/02 | 285 <LOD | | 195 <LOD | | 285 <LOD | | 750 <LOD | | 10.5 <LOD | | 180 <LOD | | 103.65 |
| 123 | A1-9 | 3 | 07/16/02 | 270 <LOD | | 225 <LOD | | 42.75 <LOD | | 765 <LOD | | 33.6 <LOD | | 390 <LOD | | 111.9 |
| 124 | A1-9 | 5 | 07/16/02 | 42.15 <LOD | | 180 <LOD | | 74.1 <LOD | | 735 <LOD | | 330 <LOD | | 165 <LOD | | 29.4 |
| 74 | A1-10 | 3 | 07/16/02 | 133.8 <LOD | | 90.3 <LOD | | 128.25 <LOD | | 645 <LOD | | 8.55 <LOD | | 195 <LOD | | 68.7 |
| 76 | A1-10 | 4 | 07/16/02 | 138.45 <LOD | | 20.1 <LOD | | 34.5 <LOD | | 705 <LOD | | 121.35 <LOD | | 195 <LOD | | 75 |
| 79 | A1-11 | 2 | 07/16/02 | 110.1 <LOD | | 108 <LOD | | 111.6 <LOD | | 525 <LOD | | 91.05 <LOD | | 165 <LOD | | 60.3 |
| 80 | A1-11 | 4 | 07/16/02 | 142.95 <LOD | | 40.95 <LOD | | 107.7 <LOD | | 600 <LOD | | 38.7 <LOD | | 210 <LOD | | 110.4 |
| 30 | A1-12 | 4 | 07/15/02 | 195 <LOD | | 18.3 <LOD | | 101.55 <LOD | | 555 <LOD | | 7.8 <LOD | | 255 <LOD | | 69.15 |
| 31 | A1-12 | 6 | 07/15/02 | 137.85 <LOD | | 19.95 <LOD | | 27.15 <LOD | | 630 <LOD | | 8.25 <LOD | | 195 <LOD | | 74.7 |
| 70 | A1-13 | 2 | 07/16/02 | 210 <LOD | | 165 <LOD | | 68.7 <LOD | | 795 <LOD | | 240 <LOD | | 195 <LOD | | 52.8 |
| 73 | A1-13 | 4 | 07/16/02 | 35.55 <LOD | | 165 <LOD | | 125.7 <LOD | | 555 <LOD | | 100.95 <LOD | | 210 <LOD | | 6.3 |
| 83 | A1-14 | 6 | 07/16/02 | 180 <LOD | | 180 <LOD | | 180 <LOD | | 780 <LOD | | 88.35 <LOD | | 315 <LOD | | 39.45 |
| 84 | A1-14 | 8 | 07/16/02 | 27.15 <LOD | | 17.7 <LOD | | 30.9 <LOD | | 615 <LOD | | 100.95 <LOD | | 210 <LOD | | 6.3 |
| 87 | A1-15 | 11 | 07/16/02 | 165 <LOD | | 22.05 <LOD | | 165 <LOD | | 735 <LOD | | 134.7 <LOD | | 195 <LOD | | 6.45 |
| 88 | A1-15 | 12 | 07/16/02 | 32.4 <LOD | | 20.4 <LOD | | 165 <LOD | | 675 <LOD | | 135.9 <LOD | | 225 <LOD | | 7.2 |
| 26 | A1-16 | 9 | 07/15/02 | 112.5 <LOD | | 108.3 <LOD | | 165 <LOD | | 525 <LOD | | 5.7 <LOD | | 138.15 <LOD | | 3.6 |
| 28 | A1-16 | 11 | 07/15/02 | 285 <LOD | | 56.1 <LOD | | 285 <LOD | | 795 <LOD | | 330 <LOD | | 270 <LOD | | 33.3 |
| 20 | A1-17 | 5 | 07/15/02 | 210 <LOD | | 195 <LOD | | 38.4 <LOD | | 660 <LOD | | 118.65 <LOD | | 270 <LOD | | 7.95 |
| 22 | A1-17 | 8 | 07/15/02 | 210 <LOD | | 195 <LOD | | 165 <LOD | | 690 <LOD | | 180 <LOD | | 285 <LOD | | 10.2 |
| 103 | A1-19 | 13 | 07/16/02 | 165 <LOD | | 117.75 <LOD | | 32.25 <LOD | | 600 <LOD | | 99.6 <LOD | | 165 <LOD | | 5.1 |
| 104 | A1-19 | 15 | 07/16/02 | 56.7 <LOD | | 131.85 <LOD | | 131.1 <LOD | | 795 <LOD | | 77.7 <LOD | | 315 <LOD | | 27.9 |
| 66 | A1-20 | 2 | 07/16/02 | 180 <LOD | | 139.95 <LOD | | 149.4 <LOD | | 600 <LOD | | 210 <LOD | | 225 <LOD | | 8.25 |
| 69 | A1-20 | 4 | 07/16/02 | 37.5 <LOD | | 165 <LOD | | 37.65 <LOD | | 675 <LOD | | 32.85 <LOD | | 255 <LOD | | 26.7 |
| 108 | A1-21 | 21 | 07/16/02 | 29.1 <LOD | | 19.5 <LOD | | 150 <LOD | | 705 <LOD | | 8.4 <LOD | | 255 <LOD | | 7.05 |
| 111 | A1-21 | 22.5 | 07/16/02 | 20.85 <LOD | | 20.4 <LOD | | 29.85 <LOD | | 690 <LOD | | 7.65 <LOD | | 225 <LOD | | 6.15 |
| 112 | A1-21 DUP | 22.5 | 07/16/02 | 32.25 <LOD | | 165 <LOD | | 32.25 <LOD | | 750 <LOD | | 12.3 <LOD | | 285 <LOD | | 150 |
| 116 | A1-23 | 7 | 07/16/02 | 225 <LOD | | 74.4 <LOD | | 225 <LOD | | 795 <LOD | | 330 <LOD | | 255 <LOD | | 127.5 |
| 120 | A1-23 | 8 | 07/16/02 | 147 <LOD | | 240 <LOD | | 40.35 <LOD | | 720 <LOD | | 119.85 <LOD | | 345 <LOD | | 78.75 |
| 99 | A1-24 | 10 | 07/16/02 | 33.6 <LOD | | 20.4 <LOD | | 165 <LOD | | 690 <LOD | | 26.4 <LOD | | 255 <LOD | | 6.9 |
| 100 | A1-24 | 12 | 07/16/02 | 195 <LOD | | 137.85 <LOD | | 195 <LOD | | 765 <LOD | | 28.5 <LOD | | 315 <LOD | | 23.4 |
| 127 | A1-25 | 2 | 07/16/02 | 300 <LOD | | 150 <LOD | | 165 <LOD | | 705 <LOD | | 129 <LOD | | 315 <LOD | | 9.3 |
| 12 | | | | | | | | | | | | | | | | |

Appendix C: XRF Data for the Manufacturing Area
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| XLNo | Boring Location | Depth (ft) | Date | Mo | Mo Error | Zr | Zr Error | Sr | Sr Error | Rb | Rb Error | Pb | Pb Error | Se | Se Error | As | As Error | Hg | Hg Error | Zn | Zn Error | Cu | Cu Error | Ni | |
|------|-----------------|------------|----------|------|----------|--------|----------|------|----------|------|----------|------|----------|-------|----------|-------|----------|-------|----------|-------|----------|--------|----------|-----|-------|
| 266 | A2-1 | 7 | 07/18/02 | <LOD | | 41.7 | 219.4 | 37.8 | 46 | 22.6 | 106.6 | 52.3 | <LOD | 49.65 | <LOD | 21.3 | <LOD | 38.4 | <LOD | 27.3 | 294.2 | 91.3 | <LOD | 180 | <LOD |
| 271 | A2-1 | 8 | 07/18/02 | <LOD | | 48.75 | 181.6 | 39.5 | 67.8 | 28.1 | 112.9 | 60.1 | <LOD | 60.6 | <LOD | 22.65 | <LOD | 41.1 | <LOD | 28.8 | 293.8 | 100 | <LOD | 180 | <LOD |
| 273 | A2-2 | 3 | 07/18/02 | <LOD | | 35.55 | 285.2 | 33.8 | 56.9 | 18.9 | 136.1 | 45.5 | <LOD | 36.15 | <LOD | 18.3 | <LOD | 29.1 | <LOD | 22.2 | 842.4 | 110 | <LOD | 165 | 247.6 |
| 276 | A2-2 | 4 | 07/18/02 | <LOD | | 49.65 | 188.7 | 36.3 | 41.8 | 22.7 | 94.9 | 51.4 | <LOD | 48.6 | <LOD | 20.1 | <LOD | 36.75 | <LOD | 28.35 | 973.6 | 150 | <LOD | 195 | <LOD |
| 348 | A2-3 | 2.5 | 07/18/02 | <LOD | | 47.55 | 224.6 | 40 | 35.7 | 22.6 | 142.9 | 61.5 | <LOD | 41.85 | <LOD | 23.25 | <LOD | 38.1 | <LOD | 29.7 | 513.2 | 120 | <LOD | 195 | <LOD |
| 351 | A2-3 | 4 | 07/18/02 | <LOD | | 40.95 | 212.6 | 34.7 | 35.2 | 20 | 170.6 | 58.8 | <LOD | 35.85 | <LOD | 20.7 | <LOD | 34.2 | <LOD | 28.65 | 577.2 | 110 | <LOD | 165 | <LOD |
| 352 | A2-4 | 5.5 | 07/18/02 | <LOD | | 50.25 | 174.3 | 37.4 | 47.5 | 25.1 | 134.9 | 62.9 | <LOD | 55.2 | <LOD | 20.55 | <LOD | 41.85 | <LOD | 39 | 164.2 | 88.5 | <LOD | 195 | <LOD |
| 355 | A2-4 | 8 | 07/18/02 | <LOD | | 43.65 | 246 | 42 | 72 | 26.8 | 141.3 | 61.6 | <LOD | 41.25 | <LOD | 27.15 | <LOD | 34.5 | <LOD | 34.5 | 319.4 | 97.1 | <LOD | 180 | <LOD |
| 357 | A2-5 | 7 | 07/18/02 | <LOD | | 46.05 | 215.2 | 41.1 | 45.6 | 24.7 | 131.2 | 61.9 | <LOD | 39.3 | <LOD | 25.65 | <LOD | 41.55 | <LOD | 28.95 | <LOD | 113.4 | <LOD | 180 | <LOD |
| 360 | A2-5 | 6 | 07/18/02 | <LOD | | 45.3 | 190.2 | 36.9 | 80 | 27.7 | 105 | 55.2 | <LOD | 43.8 | <LOD | 19.5 | <LOD | 32.85 | <LOD | 32.85 | <LOD | 114.75 | <LOD | 180 | <LOD |
| 285 | A2-6 | 3 | 07/18/02 | <LOD | | 42.45 | 165.1 | 33.6 | 60.7 | 24.2 | 172.9 | 63.3 | <LOD | 48.6 | <LOD | 23.55 | <LOD | 35.25 | <LOD | 24.3 | 222.2 | 83.7 | <LOD | 165 | <LOD |
| 288 | A2-6 | 4 | 07/18/02 | <LOD | | 39.15 | 149.4 | 31.7 | 52 | 22.9 | 193.3 | 65.5 | <LOD | 29.7 | <LOD | 20.25 | <LOD | 35.25 | <LOD | 29.25 | 340.2 | 95.6 | <LOD | 180 | 505.2 |
| 289 | A2-7 | 3 | 07/18/02 | 52.5 | | 32.4 | 167.4 | 33.7 | 58.1 | 24 | 117.5 | 54.3 | <LOD | 45.2 | <LOD | 28.05 | <LOD | 53.55 | <LOD | 32.25 | 588.4 | 120 | <LOD | 180 | <LOD |
| 292 | A2-7 | 4 | 07/18/02 | <LOD | | 47.55 | 189.1 | 39.3 | 97.4 | 30.6 | 108.3 | 58.1 | <LOD | 56.1 | <LOD | 25.05 | <LOD | 42.75 | <LOD | 26.7 | 156.5 | 84.8 | <LOD | 180 | <LOD |
| 313 | A2-8 | 7 | 07/18/02 | 64.8 | | 35 | 245.6 | 40 | 60.9 | 24.3 | 105.1 | 52.1 | <LOD | 43.05 | <LOD | 17.85 | <LOD | 33.6 | <LOD | 28.05 | 155.9 | 75.5 | <LOD | 165 | <LOD |
| 316 | A2-8 | 8 | 07/18/02 | <LOD | | 48.45 | 228.2 | 42.6 | 50.6 | 25.5 | 134.5 | 62.9 | <LOD | 43.5 | <LOD | 16.95 | <LOD | 35.55 | <LOD | 22.65 | 350 | 110 | <LOD | 195 | <LOD |
| 301 | A2-9 | 2 | 07/18/02 | <LOD | | 44.25 | 172.1 | 35.2 | <LOD | 30 | 109.1 | 54.5 | <LOD | 44.25 | <LOD | 17.4 | <LOD | 39.15 | <LOD | 31.35 | 409.2 | 110 | <LOD | 195 | 552.4 |
| 306 | A2-9 | 4 | 07/18/02 | <LOD | | 46.95 | 208 | 38.4 | 59.6 | 25.1 | 83.8 | 50.1 | <LOD | 62.25 | <LOD | 21.15 | <LOD | 46.95 | <LOD | 32.7 | 174.9 | 84.9 | <LOD | 195 | <LOD |
| 303 | A2-9-DUP | 2 | 07/18/02 | <LOD | | 49.8 | 235.2 | 43.2 | 79.2 | 28.9 | 135.9 | 63.5 | <LOD | 45.6 | <LOD | 24.15 | <LOD | 39.6 | <LOD | 35.4 | 321.4 | 100 | <LOD | 195 | <LOD |
| 308 | A2-9-DUP | 4 | 07/18/02 | <LOD | | 51.75 | 215.4 | 39.7 | 92.2 | 28.9 | 175.4 | 67.4 | <LOD | 69.45 | <LOD | 32.55 | <LOD | 57.9 | <LOD | 34.65 | 358.6 | 100 | <LOD | 195 | <LOD |
| 297 | A2-10 | 3 | 07/18/02 | <LOD | | 37.5 | 167 | 31.6 | 40.5 | 20.7 | 158.2 | 57.4 | <LOD | 51.9 | <LOD | 16.2 | <LOD | 40.95 | <LOD | 26.7 | 1249.6 | 150 | <LOD | 210 | <LOD |
| 300 | A2-10 | 4 | 07/18/02 | <LOD | | 51.75 | 225.8 | 43.4 | 68.8 | 28.3 | 161.6 | 69.3 | <LOD | 52.8 | <LOD | 23.85 | <LOD | 39.6 | <LOD | 25.95 | 174.5 | 92.7 | <LOD | 210 | <LOD |
| 293 | A2-11 | 3 | 07/18/02 | <LOD | | 47.55 | 238.2 | 41.6 | 61.8 | 25.9 | 143.2 | 62.3 | <LOD | 54.75 | <LOD | 25.05 | <LOD | 42.75 | <LOD | 33.45 | 291.2 | 95.7 | <LOD | 180 | <LOD |
| 296 | A2-11 | 4 | 07/18/02 | <LOD | | 42.6 | 198.8 | 36.2 | 66.8 | 24.8 | 133.2 | 56.9 | <LOD | 43.65 | <LOD | 24.3 | <LOD | 39 | <LOD | 29.85 | 1549.6 | 180 | <LOD | 225 | <LOD |
| 369 | A2-12 | 2 | 07/18/02 | <LOD | | 40.05 | 187.3 | 33.7 | 71.8 | 24.1 | 138.6 | 55.1 | <LOD | 39.45 | <LOD | 18.45 | <LOD | 30.45 | <LOD | 24.3 | 913.6 | 130 | <LOD | 180 | <LOD |
| 372 | A2-12 | 4 | 07/18/02 | <LOD | | 47.1 | 216.4 | 41.8 | 72.6 | 28.3 | 91.6 | 55.1 | <LOD | 52.5 | <LOD | 30.6 | <LOD | 46.35 | <LOD | 35.1 | 149.3 | 88.4 | <LOD | 210 | <LOD |
| 365 | A2-13 | 2 | 07/18/02 | <LOD | | 50.4 | 255.8 | 50.6 | <LOD | 39.9 | 113 | 66.3 | <LOD | 44.4 | <LOD | 24.3 | <LOD | 41.1 | <LOD | 32.55 | 460.4 | 140 | <LOD | 270 | <LOD |
| 368 | A2-13 | 4 | 07/18/02 | <LOD | | 41.4 | 203.1 | 36.6 | 73 | 25.5 | 126.8 | 55.9 | <LOD | 56.25 | <LOD | 20.7 | <LOD | 42.45 | <LOD | 26.25 | <LOD | 106.8 | <LOD | 165 | <LOD |
| 317 | A2-14 | 6.5 | 07/18/02 | <LOD | | 42 | 189.4 | 34.9 | <LOD | 30.6 | 117.8 | 53.5 | <LOD | 54 | <LOD | 20.7 | <LOD | 42 | <LOD | 31.05 | 812 | 130 | <LOD | 195 | <LOD |
| 320 | A2-14 | 8 | 07/18/02 | <LOD | | 39.6 | 146.2 | 29.1 | 55 | 21.5 | 140.7 | 53.1 | <LOD | 46.8 | <LOD | 16.95 | <LOD | 32.25 | <LOD | 25.65 | 862.4 | 120 | <LOD | 180 | <LOD |
| 277 | A2-15 | 3 | 07/18/02 | <LOD | | 37.5</ | | | | | | | | | | | | | | | | | | | |

Appendix C: XRF Data for the Manufacturing Area
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| XLNo | Boring Location | Depth (ft) | Date | Ni | Error | Co | Co | Fe | Fe | Error | Mn | Mn | Error | Cr | Cr | Error | Eu | Eu | Error | La | La | Error | Ba | Ba | Error | Cs | Cs | Error | Te | Te | Error | Sb | Sb | Error |
|------|-----------------|------------|----------|-----|-------|-----|---------|-------|--------|-------|--------|------|-------|------|------|--------|-------|-----|-------|--------|------|--------|------|--------|-------|-----|------|-------|------|-----|-------|-----|------|-------|
| 266 | A2-1 | 7 | 07/18/02 | 285 | <LOD | 495 | 16588.8 | 1200 | <LOD | 840 | <LOD | 735 | <LOD | 1260 | <LOD | 315 | <LOD | 510 | <LOD | 270 | <LOD | 270 | <LOD | 270 | <LOD | 270 | <LOD | 270 | <LOD | 270 | <LOD | 270 | <LOD | |
| 271 | A2-1 | 8 | 07/18/02 | 255 | <LOD | 420 | 9139.2 | 920 | <LOD | 675 | <LOD | 765 | <LOD | 600 | <LOD | 138.45 | <LOD | 345 | <LOD | 150 | <LOD | 109.2 | <LOD | 26.1 | | | | | | | | | | |
| 273 | A2-2 | 3 | 07/18/02 | 150 | <LOD | 330 | 10496 | 710 | <LOD | 510 | <LOD | 495 | <LOD | 885 | <LOD | 17.1 | <LOD | 390 | <LOD | 72.45 | <LOD | 129.3 | <LOD | 38.85 | | | | | | | | | | |
| 276 | A2-2 | 4 | 07/18/02 | 285 | <LOD | 555 | 19699.2 | 1400 | <LOD | 885 | <LOD | 840 | <LOD | 630 | <LOD | 15.15 | 421.2 | 270 | <LOD | 180 | <LOD | 142.65 | <LOD | 45.6 | | | | | | | | | | |
| 348 | A2-3 | 2.5 | 07/18/02 | 285 | <LOD | 510 | 15897.6 | 1200 | <LOD | 780 | <LOD | 705 | <LOD | 765 | <LOD | 110.4 | <LOD | 315 | <LOD | 126.3 | <LOD | 96.9 | <LOD | 31.2 | | | | | | | | | | |
| 351 | A2-3 | 4 | 07/18/02 | 240 | <LOD | 450 | 17996.8 | 1200 | <LOD | 660 | <LOD | 645 | <LOD | 585 | <LOD | 180 | <LOD | 270 | <LOD | 180 | <LOD | 26.25 | <LOD | 26.85 | | | | | | | | | | |
| 352 | A2-4 | 5.5 | 07/18/02 | 345 | <LOD | 555 | 16192 | 1300 | <LOD | 825 | <LOD | 825 | <LOD | 525 | <LOD | 300 | <LOD | 405 | <LOD | 40.8 | <LOD | 135.75 | <LOD | 35.4 | | | | | | | | | | |
| 355 | A2-4 | 8 | 07/18/02 | 285 | <LOD | 405 | 9036.8 | 849.6 | <LOD | 615 | <LOD | 690 | <LOD | 1170 | <LOD | 18.6 | <LOD | 495 | <LOD | 270 | <LOD | 45.45 | <LOD | 150 | | | | | | | | | | |
| 357 | A2-5 | 7 | 07/18/02 | 330 | <LOD | 555 | 16000 | 1300 | <LOD | 870 | <LOD | 750 | <LOD | 825 | <LOD | 225 | <LOD | 480 | <LOD | 285 | <LOD | 180 | <LOD | 128.85 | | | | | | | | | | |
| 360 | A2-5 | 8 | 07/18/02 | 270 | <LOD | 480 | 12000 | 1000 | 1100 | 570 | <LOD | 675 | <LOD | 495 | <LOD | 133.2 | <LOD | 330 | <LOD | 270 | <LOD | 105.6 | <LOD | 37.5 | | | | | | | | | | |
| 285 | A2-6 | 3 | 07/18/02 | 270 | <LOD | 435 | 12396.8 | 989.6 | <LOD | 750 | <LOD | 660 | <LOD | 1035 | <LOD | 225 | <LOD | 375 | <LOD | 123.15 | <LOD | 120.3 | <LOD | 125.85 | | | | | | | | | | |
| 288 | A2-6 | 4 | 07/18/02 | 210 | <LOD | 420 | 12000 | 960 | <LOD | 690 | <LOD | 735 | <LOD | 420 | <LOD | 240 | <LOD | 360 | <LOD | 195 | <LOD | 20.7 | <LOD | 138.6 | | | | | | | | | | |
| 289 | A2-7 | 3 | 07/18/02 | 285 | <LOD | 555 | 17792 | 1300 | <LOD | 900 | 1149.6 | 640 | <LOD | 870 | <LOD | 18 | <LOD | 465 | <LOD | 165 | <LOD | 22.35 | <LOD | 30.3 | | | | | | | | | | |
| 292 | A2-7 | 4 | 07/18/02 | 300 | <LOD | 510 | 13388.8 | 1100 | <LOD | 825 | <LOD | 735 | <LOD | 750 | <LOD | 210 | <LOD | 315 | <LOD | 210 | <LOD | 78.3 | <LOD | 54.45 | | | | | | | | | | |
| 313 | A2-8 | 7 | 07/18/02 | 240 | 371.4 | 230 | 5120 | 590 | <LOD | 540 | <LOD | 585 | <LOD | 795 | <LOD | 240 | <LOD | 390 | <LOD | 180 | <LOD | 22.8 | <LOD | 30.9 | | | | | | | | | | |
| 316 | A2-8 | 8 | 07/18/02 | 300 | <LOD | 465 | 9644.8 | 940 | <LOD | 645 | <LOD | 645 | <LOD | 1035 | <LOD | 17.55 | <LOD | 345 | <LOD | 165 | <LOD | 22.05 | <LOD | 44.85 | | | | | | | | | | |
| 301 | A2-9 | 2 | 07/18/02 | 220 | <LOD | 480 | 13798.4 | 1100 | <LOD | 750 | <LOD | 675 | <LOD | 495 | <LOD | 91.2 | 321.4 | 200 | <LOD | 129.15 | <LOD | 127.2 | <LOD | 108.15 | | | | | | | | | | |
| 306 | A2-9 | 4 | 07/18/02 | 285 | <LOD | 555 | 18790.4 | 1400 | <LOD | 945 | 1149.6 | 660 | <LOD | 765 | <LOD | 285 | 665.6 | 400 | <LOD | 300 | <LOD | 180 | <LOD | 42.45 | | | | | | | | | | |
| 303 | A2-9-DUP | 2 | 07/18/02 | 300 | <LOD | 480 | 11200 | 1000 | <LOD | 750 | <LOD | 720 | <LOD | 765 | <LOD | 15.15 | <LOD | 390 | <LOD | 180 | <LOD | 210 | <LOD | 42.3 | | | | | | | | | | |
| 308 | A2-9-DUP | 4 | 07/18/02 | 285 | <LOD | 570 | 19200 | 1400 | 2308.8 | 750 | <LOD | 1050 | <LOD | 990 | <LOD | 225 | <LOD | 345 | <LOD | 375 | <LOD | 165 | <LOD | 180 | | | | | | | | | | |
| 297 | A2-10 | 3 | 07/18/02 | 285 | <LOD | 555 | 22592 | 1400 | 1069.6 | 630 | <LOD | 810 | <LOD | 915 | <LOD | 165 | <LOD | 405 | <LOD | 240 | <LOD | 21.9 | <LOD | 195 | | | | | | | | | | |
| 300 | A2-10 | 4 | 07/18/02 | 315 | <LOD | 525 | 14592 | 1300 | <LOD | 900 | <LOD | 840 | <LOD | 645 | <LOD | 180 | <LOD | 315 | <LOD | 285 | <LOD | 143.25 | <LOD | 37.05 | | | | | | | | | | |
| 293 | A2-11 | 3 | 07/18/02 | 300 | <LOD | 525 | 16000 | 1200 | <LOD | 825 | <LOD | 840 | <LOD | 600 | <LOD | 138.75 | <LOD | 405 | <LOD | 195 | <LOD | 112.65 | <LOD | 36.15 | | | | | | | | | | |
| 296 | A2-11 | 4 | 07/18/02 | 255 | <LOD | 510 | 19200 | 1300 | <LOD | 870 | <LOD | 750 | <LOD | 1005 | <LOD | 14.7 | <LOD | 360 | <LOD | 63.15 | <LOD | 165 | <LOD | 32.55 | | | | | | | | | | |
| 369 | A2-12 | 2 | 07/18/02 | 255 | <LOD | 450 | 15398.4 | 1100 | <LOD | 795 | <LOD | 690 | <LOD | 840 | <LOD | 19.65 | <LOD | 630 | <LOD | 107.55 | <LOD | 46.5 | <LOD | 165 | | | | | | | | | | |
| 372 | A2-12 | 4 | 07/18/02 | 345 | <LOD | 615 | 20198.4 | 1500 | <LOD | 1065 | <LOD | 1035 | <LOD | 1020 | <LOD | 300 | <LOD | 525 | <LOD | 141.15 | <LOD | 134.7 | <LOD | 141.6 | | | | | | | | | | |
| 365 | A2-13 | 2 | 07/18/02 | 405 | <LOD | 570 | 11897.6 | 1200 | <LOD | 960 | | | | | | | | | | | | | | | | | | | | | | | | |

Appendix C: XRF Data for the Manufacturing Area
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| XLNo | Boring Location | Depth (ft) | Date | Sn | Sn Error | Cd | Cd Error | Ag | Ag Error | Pd | Pd Error | RES3 | RES3 Error | RES0 | RES0 Error | RES5 | RES5 Error | #31 | #31 Error | #32 | #32 Error |
|------|-----------------|------------|----------|------|----------|------|----------|--------|----------|-----|----------|-------|------------|------|------------|------|------------|-----|-----------|-----|-----------|
| 266 | A2-1 | 7 | 07/18/02 | <LOD | | 1125 | <LOD | 75 | <LOD | 525 | <LOD | 61.5 | NA | | | | | | | | |
| 271 | A2-1 | 8 | 07/18/02 | <LOD | | 585 | <LOD | 6.6 | <LOD | 165 | <LOD | 4.2 | | | | | | | | | |
| 273 | A2-2 | 3 | 07/18/02 | <LOD | | 690 | <LOD | 35.7 | <LOD | 210 | <LOD | 72.9 | | | | | | | | | |
| 276 | A2-2 | 4 | 07/18/02 | <LOD | | 630 | <LOD | 165 | <LOD | 255 | <LOD | 80.25 | | | | | | | | | |
| 348 | A2-3 | 2.5 | 07/18/02 | <LOD | | 540 | <LOD | 93.15 | <LOD | 210 | <LOD | 50.1 | | | | | | | | | |
| 351 | A2-3 | 4 | 07/18/02 | <LOD | | 510 | <LOD | 69 | <LOD | 195 | <LOD | 63.6 | | | | | | | | | |
| 352 | A2-4 | 5.5 | 07/18/02 | <LOD | | 645 | <LOD | 27 | <LOD | 195 | <LOD | 21.6 | | | | | | | | | |
| 355 | A2-4 | 8 | 07/18/02 | <LOD | | 705 | <LOD | 31.05 | <LOD | 270 | <LOD | 48.6 | | | | | | | | | |
| 357 | A2-5 | 7 | 07/18/02 | <LOD | | 765 | <LOD | 26.4 | <LOD | 225 | <LOD | 53.25 | | | | | | | | | |
| 360 | A2-5 | 8 | 07/18/02 | <LOD | | 555 | <LOD | 150 | <LOD | 195 | <LOD | 58.2 | | | | | | | | | |
| 285 | A2-6 | 3 | 07/18/02 | <LOD | | 570 | <LOD | 165 | <LOD | 195 | <LOD | 19.95 | | | | | | | | | |
| 288 | A2-6 | 4 | 07/18/02 | <LOD | | 660 | <LOD | 34.35 | <LOD | 255 | <LOD | 73.95 | | | | | | | | | |
| 289 | A2-7 | 3 | 07/18/02 | <LOD | | 705 | <LOD | 8.4 | <LOD | 315 | <LOD | 8.7 | | | | | | | | | |
| 292 | A2-7 | 4 | 07/18/02 | <LOD | | 825 | <LOD | 58.2 | <LOD | 315 | <LOD | 47.4 | | | | | | | | | |
| 313 | A2-8 | 7 | 07/18/02 | <LOD | | 720 | <LOD | 8.25 | <LOD | 270 | <LOD | 7.35 | | | | | | | | | |
| 316 | A2-8 | 8 | 07/18/02 | <LOD | | 660 | <LOD | 195 | <LOD | 195 | <LOD | 91.8 | | | | | | | | | |
| 301 | A2-9 | 2 | 07/18/02 | <LOD | | 540 | <LOD | 107.85 | <LOD | 180 | <LOD | 20.7 | | | | | | | | | |
| 306 | A2-9 | 4 | 07/18/02 | <LOD | | 690 | <LOD | 37.05 | <LOD | 255 | <LOD | 30.15 | | | | | | | | | |
| 303 | A2-9-DUP | 2 | 07/18/02 | <LOD | | 585 | <LOD | 165 | <LOD | 255 | <LOD | 67.5 | | | | | | | | | |
| 308 | A2-9-DUP | 4 | 07/18/02 | <LOD | | 675 | <LOD | 240 | <LOD | 285 | <LOD | 150 | | | | | | | | | |
| 297 | A2-10 | 3 | 07/18/02 | <LOD | | 615 | <LOD | 8.4 | <LOD | 225 | <LOD | 74.55 | | | | | | | | | |
| 300 | A2-10 | 4 | 07/18/02 | <LOD | | 690 | <LOD | 28.65 | <LOD | 225 | <LOD | 22.95 | | | | | | | | | |
| 293 | A2-11 | 3 | 07/18/02 | <LOD | | 555 | <LOD | 107.55 | <LOD | 165 | <LOD | 62.85 | | | | | | | | | |
| 296 | A2-11 | 4 | 07/18/02 | <LOD | | 540 | <LOD | 95.4 | <LOD | 180 | <LOD | 5.7 | | | | | | | | | |
| 369 | A2-12 | 2 | 07/18/02 | <LOD | | 795 | <LOD | 87.45 | <LOD | 225 | <LOD | 26.7 | | | | | | | | | |
| 372 | A2-12 | 4 | 07/18/02 | <LOD | | 675 | <LOD | 114.15 | <LOD | 300 | <LOD | 8.7 | | | | | | | | | |
| 365 | A2-13 | 2 | 07/18/02 | <LOD | | 855 | <LOD | 375 | <LOD | 315 | <LOD | 270 | | | | | | | | | |
| 368 | A2-13 | 4 | 07/18/02 | <LOD | | 690 | <LOD | 26.85 | <LOD | 240 | <LOD | 73.65 | | | | | | | | | |
| 317 | A2-14 | 6.5 | 07/18/02 | <LOD | | 660 | <LOD | 7.8 | <LOD | 210 | <LOD | 28.35 | | | | | | | | | |
| 320 | A2-14 | 8 | 07/18/02 | <LOD | | 555 | <LOD | 81.9 | <LOD | 180 | <LOD | 63 | | | | | | | | | |
| 277 | A2-15 | 3 | 07/18/02 | <LOD | | 630 | <LOD | 127.8 | <LOD | 240 | <LOD | 62.25 | | | | | | | | | |
| 280 | A2-15 | 4 | 07/18/02 | <LOD | | 645 | <LOD | 56.1 | <LOD | 210 | <LOD | 63.9 | | | | | | | | | |
| 309 | A2-16 | 3 | 07/18/02 | <LOD | | 885 | <LOD | 165 | <LOD | 270 | <LOD | 8.55 | | | | | | | | | |
| 312 | A2-16 | 4 | 07/18/02 | <LOD | | 630 | <LOD | 138.45 | <LOD | 270 | <LOD | 8.25 | | | | | | | | | |
| 361 | A2-17 | 2 | 07/18/02 | <LOD | | 660 | <LOD | 9.75 | <LOD | 330 | <LOD | 95.85 | | | | | | | | | |
| 364 | A2-17 | 4 | 07/18/02 | <LOD | | 765 | <LOD | 240 | <LOD | 315 | <LOD | 77.4 | | | | | | | | | |
| 321 | A2-18 | 6 | 07/18/02 | <LOD | | 705 | <LOD | 120.15 | <LOD | 300 | <LOD | 180 | | | | | | | | | |
| 324 | A2-18 | 7 | 07/18/02 | <LOD | | 675 | <LOD | 36.45 | <LOD | 300 | <LOD | 30.15 | | | | | | | | | |
| 327 | A2-19 | 2 | 07/18/02 | <LOD | | 540 | <LOD | 6.9 | <LOD | 165 | <LOD | 52.05 | | | | | | | | | |
| 328 | A2-19 | 4 | 07/18/02 | <LOD | | 435 | <LOD | 79.5 | <LOD | 150 | <LOD | 34.95 | | | | | | | | | |
| 373 | A2-20 | 2 | 07/18/02 | <LOD | | 585 | <LOD | 6.75 | <LOD | 270 | <LOD | 7.05 | | | | | | | | | |
| 376 | A2-20 | 4 | 07/18/02 | <LOD | | 810 | <LOD | 40.8 | <LOD | 345 | <LOD | 33.6 | | | | | | | | | |
| 281 | A2-21 | 3 | 07/18/02 | <LOD | | 870 | <LOD | 165 | <LOD | 390 | <LOD | 48.3 | | | | | | | | | |
| 284 | A2-21 | 4 | 07/18/02 | <LOD | | 720 | <LOD | 32.1 | <LOD | 345 | <LOD | 88.5 | | | | | | | | | |
| 339 | A2-22 | 2 | 07/18/02 | <LOD | | 4200 | <LOD | 34.95 | <LOD | 825 | <LOD | 34.35 | | | | | | | | | |
| 343 | A2-22 | 4 | 07/18/02 | <LOD | | 720 | <LOD | 123 | <LOD | 255 | <LOD | 134.7 | | | | | | | | | |
| 335 | A2-23 | 3 | 07/18/02 | <LOD | | 585 | <LOD | 6.6 | <LOD | 210 | <LOD | 5.55 | | | | | | | | | |
| 336 | A2-23 | 4 | 07/18/02 | <LOD | | 555 | <LOD | 100.35 | <LOD</td | | | | | | | | | | | | |

Appendix C: XRF Data for the Manufacturing Area
(Page 1 of 3)

| XLNo | Boring Location | Depth (ft) | Date | Mo | Mo Error | Zr | Zr Error | Sr | Sr Error | Rb | Rb Error | Pb | Pb Error | Se | Se Error | As | As Error | Hg | Hg Error | Zn | Zn Error | Cu | Cu Error | Ni | Ni Error | |
|------|-----------------|------------|----------|------|----------|-------|----------|------|----------|-------|----------|------|----------|-------|----------|-------|----------|-------|----------|-------|----------|-------|----------|--------|----------|-----|
| 429 | A3-1 | 2.5 | 07/19/02 | <LOD | | 44.1 | 230.2 | 38.4 | 50.6 | 23.1 | 125.6 | 55.5 | <LOD | 45.9 | <LOD | 22.35 | <LOD | 37.65 | <LOD | 30.9 | 417.6 | 100 | <LOD | 180 | <LOD | 240 |
| 432 | A3-1 | 4 | 07/19/02 | <LOD | | 45.9 | 220.2 | 40.2 | 80.7 | 27.8 | 134.7 | 60.7 | <LOD | 45.9 | <LOD | 23.85 | <LOD | 35.55 | <LOD | 28.5 | 1229.6 | 170 | <LOD | 225 | <LOD | 330 |
| 416 | A3-2 | 2 | 07/18/02 | <LOD | | 44.4 | 170.6 | 34.3 | <LOD | 30.15 | 67.5 | 44.6 | <LOD | 46.5 | <LOD | 20.55 | <LOD | 35.7 | <LOD | 27.3 | 319.4 | 100 | <LOD | 240 | 1880 | 300 |
| 419 | A3-2 | 4 | 07/18/02 | <LOD | | 43.95 | 157.3 | 32.6 | 57.1 | 23.5 | 81.4 | 46.7 | <LOD | 38.7 | <LOD | 19.35 | <LOD | 32.4 | <LOD | 21.15 | <LOD | 92.4 | <LOD | 165 | <LOD | 270 |
| 425 | A3-3 | 2.5 | 07/19/02 | <LOD | | 41.7 | 183 | 34.2 | 40.9 | 21.6 | 163.4 | 60.7 | <LOD | 46.95 | <LOD | 22.2 | <LOD | 35.1 | <LOD | 28.95 | 843.2 | 130 | <LOD | 165 | <LOD | 240 |
| 428 | A3-3 | 4.5 | 07/19/02 | <LOD | | 46.5 | 203.8 | 38 | 72.6 | 26.3 | 72 | 47.1 | <LOD | 45 | <LOD | 19.5 | <LOD | 39.3 | <LOD | 24.3 | 253.6 | 92 | <LOD | 195 | 642.8 | 220 |
| 412 | A3-4 | 2 | 07/18/02 | <LOD | | 47.1 | 216.6 | 41.6 | 40.7 | 24.6 | 167.4 | 69.5 | <LOD | 69.3 | <LOD | 29.7 | <LOD | 54.3 | <LOD | 34.05 | 2929.6 | 290 | 556.4 | 240 | 672.8 | 290 |
| 415 | A3-4 | 4 | 07/18/02 | <LOD | | 48.9 | 185.8 | 39.1 | 66.2 | 27.4 | 121.8 | 60.9 | <LOD | 60.3 | <LOD | 15.75 | <LOD | 52.95 | <LOD | 35.85 | 3878.4 | 350 | 1020 | 280 | 616.8 | 270 |
| 433 | A3-5 | 2.5 | 07/19/02 | <LOD | | 48.75 | 281.6 | 47.9 | 66.6 | 28.1 | 158.6 | 68.9 | <LOD | 50.25 | <LOD | 21.3 | <LOD | 43.95 | <LOD | 29.25 | 212.4 | 96 | <LOD | 210 | 475.6 | 230 |
| 436 | A3-5 | 4 | 07/19/02 | <LOD | | 56.7 | 197.8 | 43.2 | <LOD | 39 | 174.5 | 75.8 | <LOD | 63.6 | <LOD | 27.6 | <LOD | 50.25 | <LOD | 31.2 | 344.2 | 120 | <LOD | 255 | 1249.6 | 310 |
| 408 | A3-6 | 2 | 07/18/02 | <LOD | | 55.2 | 165.9 | 41.8 | 62.8 | 30.3 | 98.4 | 62.6 | <LOD | 60.15 | <LOD | 27.3 | <LOD | 43.95 | <LOD | 30.75 | 354.2 | 120 | <LOD | 225 | <LOD | 360 |
| 411 | A3-6 | 4 | 07/18/02 | <LOD | | 43.05 | 204.8 | 37.3 | 59 | 24.5 | 122.5 | 56.1 | <LOD | 43.65 | <LOD | 17.1 | <LOD | 35.25 | <LOD | 30.75 | <LOD | 113.1 | <LOD | 195 | <LOD | 285 |
| 598 | A3-7 | 10 | 07/20/02 | <LOD | | 48.45 | 187 | 37.8 | 48.5 | 24.5 | 141.9 | 62.6 | <LOD | 54.3 | <LOD | 23.55 | <LOD | 45.45 | <LOD | 30.9 | 219.2 | 94.9 | <LOD | 225 | 397.4 | 230 |
| 601 | A3-7 | 11 | 07/20/02 | <LOD | | 46.5 | 170.2 | 36.2 | 74.4 | 27.2 | 95.6 | 53.5 | <LOD | 48.3 | <LOD | 22.95 | <LOD | 37.95 | <LOD | 25.35 | <LOD | 108.9 | <LOD | 180 | 479.2 | 210 |
| 560 | A3-8 | 5 | 07/20/02 | <LOD | | 40.05 | 203.3 | 35.8 | 66.7 | 24.3 | 135.3 | 56.1 | <LOD | 48.3 | <LOD | 19.5 | <LOD | 35.85 | <LOD | 27 | 490.4 | 110 | <LOD | 195 | 453.6 | 210 |
| 563 | A3-8 | 6 | 07/20/02 | <LOD | | 45.75 | 189.9 | 36.6 | 71.7 | 26 | 132.1 | 58.3 | <LOD | 42.6 | <LOD | 22.8 | <LOD | 35.1 | <LOD | 28.05 | 518 | 110 | <LOD | 195 | 499.2 | 210 |
| 564 | A3-9 | 2 | 07/20/02 | <LOD | | 55.05 | 227.8 | 47.1 | 44.8 | 27.5 | 101.6 | 62.4 | <LOD | 41.1 | <LOD | 29.25 | <LOD | 38.1 | <LOD | 29.1 | 466.4 | 130 | <LOD | 255 | 586 | 280 |
| 566 | A3-9 | 3 | 07/20/02 | <LOD | | 41.85 | 174.5 | 35.9 | <LOD | 33.45 | 151.7 | 63.2 | <LOD | 48.75 | <LOD | 20.55 | <LOD | 40.65 | <LOD | 31.8 | 817.6 | 140 | <LOD | 210 | <LOD | 300 |
| 400 | A3-10 | 2.5 | 07/18/02 | <LOD | | 35.4 | 186.7 | 29.7 | 53.8 | 19.7 | 115.6 | 45.4 | <LOD | 33 | <LOD | 18 | <LOD | 27.75 | <LOD | 20.4 | 353.4 | 80.2 | <LOD | 144.9 | <LOD | 210 |
| 403 | A3-10 | 4 | 07/18/02 | <LOD | | 45 | 154.5 | 33.7 | 44.3 | 23.2 | 96.4 | 52 | <LOD | 55.2 | <LOD | 29.25 | <LOD | 38.55 | <LOD | 30.6 | 1069.6 | 150 | <LOD | 210 | <LOD | 270 |
| 556 | A3-11 | 5 | 07/20/02 | 63.2 | | 32.9 | 156 | 32.6 | 49.2 | 22.8 | 133.6 | 56.7 | <LOD | 43.2 | <LOD | 20.85 | <LOD | 39.3 | <LOD | 24.9 | 592 | 120 | <LOD | 195 | <LOD | 300 |
| 557 | A3-11 | 6 | 07/20/02 | <LOD | | 45.15 | 197.4 | 40.3 | 52.2 | 25.8 | 128.1 | 62.2 | <LOD | 43.65 | <LOD | 17.1 | <LOD | 39.9 | <LOD | 25.65 | 919.2 | 170 | <LOD | 300 | 3209.6 | 400 |
| 577 | A3-12 | 2.5 | 07/20/02 | <LOD | | 42.45 | 244.8 | 41.3 | 36.4 | 22.3 | 119.1 | 56.4 | <LOD | 39.3 | <LOD | 21.3 | <LOD | 35.25 | <LOD | 25.05 | 614 | 120 | <LOD | 210 | <LOD | 300 |
| 578 | A3-12 | 3.5 | 07/20/02 | <LOD | | 45 | 233.4 | 42.4 | 40.9 | 24 | 134 | 62 | <LOD | 60.9 | <LOD | 17.1 | <LOD | 43.05 | <LOD | 26.4 | 764.8 | 140 | <LOD | 240 | 657.2 | 250 |
| 396 | A3-13 | 6 | 07/18/02 | <LOD | | 34.35 | 146.2 | 27.1 | 59.4 | 20.4 | 135.8 | 48.7 | <LOD | 33.6 | <LOD | 18.6 | <LOD | 28.35 | <LOD | 23.4 | 351.6 | 80.8 | <LOD | 148.65 | <LOD | 210 |
| 399 | A3-13 | 8 | 07/18/02 | <LOD | | 48.9 | 223.8 | 38.5 | 57.3 | 24 | 108.4 | 53 | <LOD | 41.4 | <LOD | 20.55 | <LOD | 35.25 | <LOD | 26.1 | 520.8 | 110 | <LOD | 195 | <LOD | 270 |
| 404 | A3-14 | 2 | 07/18/02 | <LOD | | 44.4 | 275.2 | 40.5 | 63.8 | 23.9 | 126.6 | 54.2 | <LOD | 46.5 | <LOD | 25.35 | <LOD | 38.55 | <LOD | 32.7 | 276.2 | 90.3 | <LOD | 195 | 544 | 220 |
| 407 | A3-14 | 4 | 07/18/02 | <LOD | | 46.5 | 199.1 | 41.5 | 59 | 27.7 | 138.8 | 66.4 | <LOD | 71.7 | <LOD | 22.8 | <LOD | 48.75 | <LOD | 33 | 186.5 | 94.9 | <LOD | 210 | 620.4 | 250 |
| 593 | A3-15 | 2 | 07/20/02 | <LOD | | 47.4 | 169.4 | 40.1 | 51.4 | 27.4 | 108.7 | 61.9 | <LOD | 74.7 | <LOD | 31.8 | <LOD | 48.15 | <LOD | 26.85 | 866.4 | 160 | <LOD | 240 | 513.6 | 260 |
| 594 | A3-15 | 5 | 07/20/02 | <LOD | | | | | | | | | | | | | | | | | | | | | | |

Appendix C: XRF Data for the Manufacturing Area
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| XLNo | Boring Location | Depth (ft) | Date | Co | Co Error | Fe | Fe Error | Mn | Mn Error | Cr | Cr Error | Eu | Eu Error | La | La Error | Ba | Ba Error | Cs | Cs Error | Te | Te Error | Sb | Sb Error | Sn | |
|------|-----------------|------------|----------|-------|----------|-----|----------|--------|----------|------|----------|------|----------|--------|----------|--------|----------|-----|----------|--------|----------|--------|----------|-------|------|
| 429 | A3-1 | 2.5 | 07/19/02 | <LOD | | 480 | 14796.8 | 1100 | <LOD | 780 | <LOD | 780 | <LOD | 735 | <LOD | 405 | <LOD | 405 | <LOD | 330 | <LOD | 49.5 | <LOD | 165 | <LOD |
| 432 | A3-1 | 4 | 07/19/02 | <LOD | | 540 | 17292.8 | 1300 | <LOD | 840 | <LOD | 795 | <LOD | 915 | <LOD | 285 | <LOD | 525 | <LOD | 54 | <LOD | 165 | <LOD | 165 | <LOD |
| 416 | A3-2 | 2 | 07/18/02 | <LOD | | 570 | 17792 | 1300 | 1739.2 | 680 | <LOD | 870 | <LOD | 1260 | <LOD | 17.55 | <LOD | 360 | <LOD | 165 | <LOD | 22.2 | <LOD | 30 | <LOD |
| 419 | A3-2 | 4 | 07/18/02 | <LOD | | 405 | 8838.4 | 810 | 2520 | 610 | <LOD | 840 | <LOD | 1005 | <LOD | 195 | <LOD | 435 | <LOD | 195 | <LOD | 21.45 | <LOD | 144.9 | <LOD |
| 425 | A3-3 | 2.5 | 07/19/02 | <LOD | | 450 | 15091.2 | 1100 | <LOD | 780 | <LOD | 750 | <LOD | 915 | <LOD | 195 | <LOD | 435 | <LOD | 101.4 | <LOD | 150 | <LOD | 240 | <LOD |
| 428 | A3-3 | 4.5 | 07/19/02 | <LOD | | 420 | 10598.4 | 929.6 | <LOD | 705 | <LOD | 705 | <LOD | 1200 | <LOD | 420 | <LOD | 510 | <LOD | 240 | <LOD | 180 | <LOD | 67.35 | <LOD |
| 412 | A3-4 | 2 | 07/18/02 | <LOD | | 900 | 44979.2 | 2899.2 | 2939.2 | 1100 | <LOD | 1290 | <LOD | 615 | <LOD | 35.25 | <LOD | 240 | <LOD | 150 | <LOD | 32.21 | <LOD | 32.55 | <LOD |
| 415 | A3-4 | 4 | 07/18/02 | 767.6 | | 460 | 22195.2 | 1699.2 | <LOD | 1110 | <LOD | 975 | <LOD | 840 | <LOD | 255 | 582 | 340 | <LOD | 133.65 | <LOD | 18.6 | <LOD | 24.75 | <LOD |
| 433 | A3-5 | 2.5 | 07/19/02 | <LOD | | 405 | 7756.8 | 829.6 | <LOD | 675 | <LOD | 705 | <LOD | 1650 | <LOD | 32.85 | <LOD | 480 | <LOD | 116.25 | <LOD | 315 | <LOD | 315 | <LOD |
| 436 | A3-5 | 4 | 07/19/02 | <LOD | | 600 | 17088 | 1500 | <LOD | 990 | <LOD | 945 | <LOD | 720 | <LOD | 15.15 | <LOD | 225 | <LOD | 210 | <LOD | 35.25 | <LOD | 42.3 | <LOD |
| 408 | A3-6 | 2 | 07/18/02 | <LOD | | 570 | 12396.8 | 1200 | <LOD | 885 | <LOD | 765 | <LOD | 990 | <LOD | 240 | <LOD | 585 | <LOD | 55.5 | <LOD | 54 | <LOD | 195 | <LOD |
| 411 | A3-6 | 4 | 07/18/02 | <LOD | | 390 | 10598.4 | 909.6 | <LOD | 690 | <LOD | 660 | <LOD | 795 | <LOD | 93.3 | 456.8 | 290 | <LOD | 36.75 | <LOD | 107.55 | <LOD | 110.1 | <LOD |
| 598 | A3-7 | 10 | 07/20/02 | <LOD | | 585 | 19097.6 | 1400 | <LOD | 975 | <LOD | 885 | <LOD | 930 | <LOD | 330 | <LOD | 525 | <LOD | 270 | <LOD | 45.9 | <LOD | 165 | <LOD |
| 601 | A3-7 | 11 | 07/20/02 | <LOD | | 375 | 8064 | 800 | 773.2 | 490 | <LOD | 660 | NA | 525 | <LOD | 18.75 | <LOD | 585 | <LOD | 180 | <LOD | 23.7 | <LOD | 31.65 | <LOD |
| 560 | A3-8 | 5 | 07/20/02 | <LOD | | 525 | 17292.8 | 1200 | <LOD | 870 | <LOD | 705 | <LOD | 765 | <LOD | 165 | <LOD | 255 | <LOD | 144.75 | <LOD | 133.8 | <LOD | 29.1 | <LOD |
| 563 | A3-8 | 6 | 07/20/02 | <LOD | | 435 | 12697.6 | 1000 | <LOD | 750 | <LOD | 675 | NA | 765 | <LOD | 255 | <LOD | 300 | <LOD | 240 | <LOD | 165 | <LOD | 127.2 | <LOD |
| 564 | A3-9 | 2 | 07/20/02 | <LOD | | 510 | 11097.6 | 1100 | <LOD | 840 | <LOD | 810 | <LOD | 1454.4 | <LOD | 23.55 | <LOD | 720 | <LOD | 315 | <LOD | 62.85 | <LOD | 48.6 | <LOD |
| 566 | A3-9 | 3 | 07/20/02 | <LOD | | 555 | 20800 | 1500 | <LOD | 960 | <LOD | 765 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 400 | A3-10 | 2.5 | 07/18/02 | <LOD | | 405 | 15398.4 | 969.6 | <LOD | 690 | <LOD | 600 | <LOD | 600 | <LOD | 15.45 | <LOD | 420 | <LOD | 255 | <LOD | 21.75 | <LOD | 36.6 | <LOD |
| 403 | A3-10 | 4 | 07/18/02 | <LOD | | 465 | 13798.4 | 1100 | <LOD | 795 | <LOD | 750 | <LOD | 555 | <LOD | 136.5 | <LOD | 375 | <LOD | 195 | <LOD | 150 | <LOD | 165 | <LOD |
| 556 | A3-11 | 5 | 07/20/02 | <LOD | | 525 | 17689.6 | 1300 | 1480 | 640 | <LOD | 795 | <LOD | 795 | <LOD | 240 | 596.4 | 390 | <LOD | 56.85 | <LOD | 195 | <LOD | 44.1 | <LOD |
| 557 | A3-11 | 6 | 07/20/02 | <LOD | | 585 | 15692.8 | 1300 | 1089.6 | 670 | <LOD | 840 | NA | 765 | <LOD | 180 | <LOD | 405 | <LOD | 150 | <LOD | 43.05 | <LOD | 42.45 | <LOD |
| 577 | A3-12 | 2.5 | 07/20/02 | <LOD | | 465 | 14195.2 | 1100 | <LOD | 780 | <LOD | 675 | <LOD | 1020 | <LOD | 255 | <LOD | 660 | <LOD | 360 | <LOD | 195 | <LOD | 48 | <LOD |
| 578 | A3-12 | 3.5 | 07/20/02 | <LOD | | 585 | 17190.4 | 1400 | <LOD | 945 | <LOD | 765 | NA | 900 | <LOD | 195 | <LOD | 510 | <LOD | 165 | <LOD | 150 | <LOD | 32.1 | <LOD |
| 396 | A3-13 | 6 | 07/18/02 | <LOD | | 435 | 16793.6 | 1000 | <LOD | 705 | <LOD | 615 | <LOD | 1170 | <LOD | 50.1 | <LOD | 390 | <LOD | 150 | <LOD | 150 | <LOD | 45.45 | <LOD |
| 399 | A3-13 | 8 | 07/18/02 | <LOD | | 495 | 16588.8 | 1200 | <LOD | 840 | <LOD | 705 | <LOD | 765 | <LOD | 146.55 | 483.2 | 310 | <LOD | 150 | <LOD | 165 | <LOD | 210 | <LOD |
| 404 | A3-14 | 2 | 07/18/02 | <LOD | | 510 | 17600 | 1200 | <LOD | 795 | <LOD | 765 | <LOD | 705 | <LOD | 270 | <LOD | 390 | <LOD | 345 | <LOD | 26.7 | <LOD | 29.85 | <LOD |
| 407 | A3-14 | 4 | 07/18/02 | <LOD | | 480 | 10099.2 | 1000 | <LOD | 765 | <LOD | 780 | <LOD | 705 | <LOD | 195 | <LOD | 360 | <LOD | 27 | <LOD | 104.55 | <LOD | 25.5 | <LOD |
| 593 | A3-15 | 2 | 07/20/02 | <LOD | | 585 | 16691.2 | 1400 | <LOD | 1035 | <LOD | 900 | <LOD | 855 | <LOD | 300 | <LOD | 270 | <LOD | 240 | <LOD | 24 | <LOD | 30.6 | <LOD |
| 594 | A3-15 | 5 | 07/20/02 | <LOD | | 540 | 16499.2 | 1300 | <LOD | 855 | <LOD | 720 | <LOD | 1065 | <LOD | 390 | <LOD | 330 | <LOD | 225 | <LOD | 165 | <LOD | 47.25 | <LOD |
| 597 | A3-15 | 6 | 07/20/02 | <LOD | | 570 | 18688 | 1400 | <LOD | 1005 | <LOD | 795 | NA | 855 | <LOD | 195 | <LOD | 420 | <LOD | 44.85 | <LOD | 58.2 | <LOD | 65.7 | <LOD |
| 589 | A3-16 | 6 | | | | | | | | | | | | | | | | | | | | | | | |

Appendix C: XRF Data for the Manufacturing Area
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| XLNo | Boring Location | Depth (ft) | Date | Sn | Error | Cd | Cd Error | Ag | Ag Error | Pd | Pd Error |
|------|-----------------|------------|----------|------|-------|--------|----------|-----|----------|--------|----------|
| 429 | A3-1 | 2.5 | 07/19/02 | 735 | <LOD | 33.45 | <LOD | 315 | <LOD | 27.45 | |
| 432 | A3-1 | 4 | 07/19/02 | 735 | <LOD | 32.7 | <LOD | 195 | <LOD | 25.95 | |
| 416 | A3-2 | 2 | 07/18/02 | 720 | <LOD | 9.3 | <LOD | 195 | <LOD | 90.6 | |
| 419 | A3-2 | 4 | 07/18/02 | 645 | <LOD | 117.3 | <LOD | 165 | <LOD | 5.55 | |
| 425 | A3-3 | 2.5 | 07/19/02 | 765 | <LOD | 11.55 | <LOD | 210 | <LOD | 118.05 | |
| 428 | A3-3 | 4.5 | 07/19/02 | 870 | <LOD | 150 | <LOD | 270 | <LOD | 48.6 | |
| 412 | A3-4 | 2 | 07/18/02 | 615 | <LOD | 90.75 | <LOD | 255 | <LOD | 60.3 | |
| 415 | A3-4 | 4 | 07/18/02 | 615 | <LOD | 7.2 | <LOD | 210 | <LOD | 5.85 | |
| 433 | A3-5 | 2.5 | 07/19/02 | 1320 | <LOD | 112.8 | <LOD | 435 | <LOD | 180 | |
| 436 | A3-5 | 4 | 07/19/02 | 600 | <LOD | 165 | <LOD | 165 | <LOD | 70.5 | |
| 408 | A3-6 | 2 | 07/18/02 | 810 | <LOD | 39.15 | <LOD | 225 | <LOD | 31.35 | |
| 411 | A3-6 | 4 | 07/18/02 | 555 | <LOD | 21.6 | <LOD | 195 | <LOD | 47.25 | |
| 598 | A3-7 | 10 | 07/20/02 | 735 | <LOD | 134.7 | <LOD | 360 | <LOD | 26.55 | |
| 601 | A3-7 | 11 | 07/20/02 | 900 | <LOD | 10.95 | <LOD | 285 | <LOD | 7.35 | |
| 560 | A3-8 | 5 | 07/20/02 | 660 | <LOD | 9.6 | <LOD | 240 | <LOD | 102.15 | |
| 563 | A3-8 | 6 | 07/20/02 | 600 | <LOD | 102.6 | <LOD | 180 | <LOD | 24.6 | |
| 564 | A3-9 | 2 | 07/20/02 | 960 | <LOD | 44.7 | <LOD | 375 | <LOD | 36.45 | |
| 566 | A3-9 | 3 | 07/20/02 | NA | NA | NA | NA | NA | NA | NA | |
| 400 | A3-10 | 2.5 | 07/18/02 | 675 | <LOD | 146.25 | <LOD | 195 | <LOD | 6.45 | |
| 403 | A3-10 | 4 | 07/18/02 | 585 | <LOD | 93.15 | <LOD | 180 | <LOD | 18 | |
| 556 | A3-11 | 5 | 07/20/02 | 675 | <LOD | 39.6 | <LOD | 285 | <LOD | 81.3 | |
| 557 | A3-11 | 6 | 07/20/02 | 720 | <LOD | 127.65 | <LOD | 300 | <LOD | 25.35 | |
| 577 | A3-12 | 2.5 | 07/20/02 | 870 | <LOD | 165 | <LOD | 240 | <LOD | 7.65 | |
| 578 | A3-12 | 3.5 | 07/20/02 | 675 | <LOD | 7.95 | <LOD | 270 | <LOD | 7.5 | |
| 396 | A3-13 | 6 | 07/18/02 | 705 | <LOD | 131.7 | <LOD | 315 | <LOD | 26.25 | |
| 399 | A3-13 | 8 | 07/18/02 | 615 | <LOD | 7.95 | <LOD | 285 | <LOD | 7.65 | |
| 404 | A3-14 | 2 | 07/18/02 | 855 | <LOD | 10.05 | <LOD | 180 | <LOD | 4.8 | |
| 407 | A3-14 | 4 | 07/18/02 | 630 | <LOD | 7.2 | <LOD | 150 | <LOD | 4.2 | |
| 593 | A3-15 | 2 | 07/20/02 | 750 | <LOD | 8.4 | <LOD | 165 | <LOD | 4.2 | |
| 594 | A3-15 | 5 | 07/20/02 | 750 | <LOD | 137.55 | <LOD | 300 | <LOD | 91.2 | |
| 597 | A3-15 | 6 | 07/20/02 | 750 | <LOD | 43.2 | <LOD | 240 | <LOD | 34.8 | |
| 589 | A3-16 | 6 | 07/20/02 | 840 | <LOD | 36.45 | <LOD | 405 | <LOD | 30.3 | |
| 590 | A3-16 | 7 | 07/20/02 | 570 | <LOD | 139.95 | <LOD | 225 | <LOD | 17.25 | |
| 550 | A3-17 | 5.5 | 07/20/02 | 585 | <LOD | 6.45 | <LOD | 240 | <LOD | 6.3 | |
| 552 | A3-17 | 6.5 | 07/20/02 | 675 | <LOD | 7.95 | <LOD | 240 | <LOD | 6.45 | |
| 445 | A3-18 | 3 | 07/19/02 | 660 | <LOD | 112.5 | <LOD | 240 | <LOD | 6.9 | |
| 448 | A3-18 | 4 | 07/19/02 | 555 | <LOD | 6.75 | <LOD | 195 | <LOD | 5.25 | |
| 583 | A3-19 | 5 | 07/20/02 | 705 | <LOD | 31.65 | <LOD | 330 | <LOD | 87.15 | |
| 586 | A3-19 | 6 | 07/20/02 | 810 | <LOD | 39.3 | <LOD | 300 | <LOD | 108.75 | |
| 441 | A3-20 | 2 | 07/19/02 | 675 | <LOD | 102.3 | <LOD | 210 | <LOD | 66.9 | |
| 444 | A3-20 | 4 | 07/19/02 | 525 | <LOD | 6.3 | <LOD | 132 | <LOD | 56.7 | |
| 387 | A3-21 | 3 | 07/18/02 | 825 | <LOD | 36 | <LOD | 330 | <LOD | 29.4 | |
| 390 | A3-21 | 5 | 07/18/02 | 600 | <LOD | 136.8 | <LOD | 225 | <LOD | 64.65 | |
| 567 | A3-22 | 6 | 07/20/02 | 735 | <LOD | 42.9 | <LOD | 255 | <LOD | 118.5 | |
| 569 | A3-22 | 7 | 07/20/02 | 615 | <LOD | 195 | <LOD | 240 | <LOD | 75.6 | |
| 437 | A3-23 | 3 | 07/19/02 | 735 | <LOD | 133.5 | <LOD | 300 | <LOD | 88.65 | |
| 440 | A3-23 | 4 | 07/19/02 | 675 | <LOD | 9.3 | <LOD | 240 | <LOD | 94.5 | |
| 573 | A3-24 | 2 | 07/20/02 | 720 | <LOD | 32.4 | <LOD | 225 | <LOD | 111.9 | |
| 574 | A3-24 | 3 | 07/20/02 | 630 | <LOD | 270 | <LOD | 240 | <LOD | 9.45 | |
| 378 | A3-25 | 2 | 07/18/02 | 615 | <LOD | 165 | <LOD | 210 | <LOD | 105.15 | |
| 381 | A3-25 | 4 | 07/18/02 | 735 | <LOD | 28.95 | <LOD | 180 | <LOD | 22.8 | |

<LOD: Below detection limit

Appendix C: XRF Data for the Manufacturing Area
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| XLNo | Boring Location | Depth (ft) | Date | Mo | Mo Error | Zr | Zr Error | Sr | Sr Error | Rb | Rb Error | Pb | Pb Error | Se | Se Error | As | As Error | Hg | Hg Error | Zn | Zn Error | Cu | Cu Error | Ni | Ni Error |
|------|-----------------|------------|---------|------|----------|-------|----------|------|----------|-------|----------|------|----------|------|----------|------|----------|------|----------|--------|----------|------|----------|--------|----------|
| 507 | A4-1 | 6 | 7/19/02 | <LOD | 45 | 222 | 38.2 | 94.5 | 27.6 | 113 | 53.8 | <LOD | 52.65 | <LOD | 22.2 | <LOD | 39 | <LOD | 30 | 1389.6 | 170 | <LOD | 225 | 1060 | 240 |
| 510 | A4-1 | 8 | 7/19/02 | <LOD | 36.6 | 173.4 | 33.3 | 57.1 | 23.2 | 70 | 43.9 | <LOD | 47.7 | <LOD | 20.1 | <LOD | 36 | <LOD | 28.2 | 1080 | 150 | <LOD | 195 | <LOD | 255 |
| 482 | A4-2 | 2.5 | 7/19/02 | <LOD | 39.3 | 307 | 38.3 | 64.2 | 21.3 | 155.5 | 52.4 | <LOD | 37.35 | <LOD | 19.95 | <LOD | 30 | <LOD | 19.2 | 295.2 | 78.9 | <LOD | 150 | <LOD | 225 |
| 485 | A4-2 | 4 | 7/19/02 | <LOD | 36.9 | 192.7 | 35.7 | 50.6 | 23 | 136.9 | 57.4 | <LOD | 34.05 | <LOD | 16.05 | <LOD | 32.7 | <LOD | 33.15 | 5139.2 | 370 | <LOD | 300 | <LOD | 255 |
| 503 | A4-3 | 2 | 7/19/02 | <LOD | 42.45 | 168.7 | 34.7 | 48 | 23.5 | 141.3 | 60 | <LOD | 51.6 | <LOD | 19.05 | <LOD | 41.4 | <LOD | 34.65 | 2320 | 230 | <LOD | 240 | <LOD | 285 |
| 506 | A4-3 | 4 | 7/19/02 | <LOD | 47.1 | 235.2 | 43.3 | 65.6 | 27.5 | 140.5 | 64.7 | <LOD | 61.8 | <LOD | 21.45 | <LOD | 46.05 | <LOD | 37.5 | <LOD | 165 | <LOD | 285 | 2969.6 | 380 |
| 512 | A4-4 | 4 | 7/20/02 | <LOD | 42.75 | 171.5 | 33.9 | 46.8 | 22.6 | 99.1 | 50.6 | <LOD | 54.15 | <LOD | 17.55 | <LOD | 39.15 | <LOD | 25.2 | 131.6 | 74.8 | <LOD | 165 | <LOD | 285 |
| 515 | A4-4 | 5 | 7/20/02 | <LOD | 44.1 | 143.6 | 32.6 | 77.4 | 26.5 | 137.2 | 59.2 | <LOD | 44.7 | <LOD | 21.45 | <LOD | 32.1 | <LOD | 27 | <LOD | 106.8 | <LOD | 180 | 318.4 | 210 |
| 490 | A4-6 | 2 | 7/19/02 | <LOD | 49.35 | 233.2 | 39.8 | 60 | 24.7 | 140.8 | 59.5 | <LOD | 50.1 | <LOD | 23.1 | <LOD | 38.4 | <LOD | 26.85 | 383.6 | 99.2 | <LOD | 165 | <LOD | 240 |
| 493 | A4-6 | 4 | 7/19/02 | <LOD | 48.45 | 155.9 | 33.8 | <LOD | 29.1 | 134.4 | 59.1 | <LOD | 48.6 | <LOD | 21 | <LOD | 37.5 | <LOD | 24.9 | 811.6 | 140 | <LOD | 225 | 420.8 | 220 |
| 520 | A4-7 | 3 | 7/20/02 | <LOD | 54.9 | 293.4 | 50.1 | 64.7 | 28.5 | 104.9 | 60 | <LOD | 53.25 | <LOD | 31.2 | <LOD | 45.3 | <LOD | 31.8 | 225 | 100 | <LOD | 225 | 1080 | 280 |
| 523 | A4-7 | 4 | 7/20/02 | <LOD | 39.45 | 186.9 | 35.7 | 41 | 22.3 | 73.7 | 46.3 | <LOD | 44.25 | <LOD | 18.6 | <LOD | 32.85 | <LOD | 26.1 | 443.6 | 110 | <LOD | 195 | <LOD | 285 |
| 524 | A4-8 | 5 | 7/20/02 | <LOD | 49.35 | 217.8 | 39.5 | 69.6 | 26.3 | 92.9 | 52 | <LOD | 53.25 | <LOD | 20.85 | <LOD | 37.65 | <LOD | 28.65 | <LOD | 129.9 | <LOD | 225 | 1469.6 | 270 |
| 527 | A4-8 | 6 | 7/20/02 | <LOD | 38.55 | 204.8 | 35.6 | 68 | 24.1 | 86 | 46.9 | <LOD | 42.9 | <LOD | 20.55 | <LOD | 36.6 | <LOD | 28.95 | 336.2 | 93.3 | <LOD | 195 | 396 | 190 |
| 478 | A4-9 | 2 | 7/19/02 | <LOD | 45.75 | 194.5 | 37.5 | 54.3 | 24.8 | 123.5 | 58.3 | <LOD | 44.7 | <LOD | 22.65 | <LOD | 38.55 | <LOD | 34.2 | 356.8 | 100 | <LOD | 180 | <LOD | 300 |
| 481 | A4-9 | 4 | 7/19/02 | <LOD | 46.35 | 252.6 | 41 | 76.9 | 26.4 | 94.7 | 51.2 | <LOD | 55.05 | <LOD | 22.05 | <LOD | 40.95 | <LOD | 33.75 | 148.9 | 78.9 | <LOD | 180 | <LOD | 285 |
| 516 | A4-10 | 7 | 7/20/02 | <LOD | 54.3 | 230.4 | 44.7 | 73.6 | 29.4 | 103.5 | 59.6 | <LOD | 53.55 | <LOD | 28.8 | <LOD | 42.75 | <LOD | 34.05 | 401.6 | 120 | <LOD | 225 | 570.8 | 250 |
| 519 | A4-10 | 8 | 7/20/02 | <LOD | 53.1 | 234 | 46.2 | 66.7 | 29.4 | 131.3 | 66.9 | <LOD | 65.1 | <LOD | 23.25 | <LOD | 46.65 | <LOD | 30.3 | <LOD | 180 | <LOD | 360 | 6598.4 | 620 |
| 486 | A4-11 | 2 | 7/19/02 | <LOD | 45.15 | 267 | 46.9 | 65.7 | 28.1 | 149.7 | 67.7 | <LOD | 59.85 | <LOD | 29.55 | <LOD | 45.3 | <LOD | 31.35 | 515.2 | 130 | <LOD | 210 | <LOD | 330 |
| 489 | A4-11 | 4 | 7/19/02 | <LOD | 53.25 | 249.4 | 46.1 | 92.4 | 31.3 | 106.5 | 59.9 | <LOD | 41.55 | <LOD | 23.1 | <LOD | 34.65 | <LOD | 32.1 | <LOD | 134.55 | <LOD | 270 | 2649.6 | 370 |
| 495 | A4-12 | 2 | 7/19/02 | <LOD | 40.05 | 245.4 | 37.1 | 63.7 | 22.8 | 128.1 | 52.2 | <LOD | 39.75 | <LOD | 19.05 | <LOD | 33.75 | <LOD | 21.75 | 504.4 | 99 | <LOD | 150 | <LOD | 210 |
| 498 | A4-12 | 4 | 7/19/02 | <LOD | 49.05 | 194.7 | 39.3 | 43 | 24.4 | 120.4 | 59.8 | <LOD | 43.5 | <LOD | 18.6 | <LOD | 38.25 | <LOD | 25.65 | 351.6 | 110 | <LOD | 210 | <LOD | 300 |
| 528 | A4-13 | 2.5 | 7/20/02 | <LOD | 59.85 | 154.8 | 42.5 | 68.1 | 32.5 | 187.2 | 85 | <LOD | 61.35 | <LOD | 23.25 | <LOD | 50.1 | <LOD | 35.7 | 598 | 150 | <LOD | 270 | 777.6 | 310 |
| 532 | A4-13 | 3.5 | 7/20/02 | <LOD | 47.55 | 203.4 | 42.6 | 66 | 28.9 | 148.1 | 69.3 | <LOD | 54.45 | <LOD | 25.2 | <LOD | 43.35 | <LOD | 40.5 | 211.4 | 100 | <LOD | 225 | 627.2 | 260 |
| 499 | A4-14 | 2 | 7/19/02 | <LOD | 48.3 | 214 | 39.7 | <LOD | 33.9 | 160.4 | 65.4 | <LOD | 40.65 | <LOD | 21.15 | <LOD | 41.4 | <LOD | 34.95 | 758.8 | 140 | <LOD | 210 | <LOD | 315 |
| 502 | A4-14 | 4 | 7/19/02 | <LOD | 49.05 | 213.4 | 40.9 | 55.7 | 25.9 | 143 | 64 | <LOD | 46.95 | <LOD | 21.3 | <LOD | 40.95 | <LOD | 33.75 | 1880 | 220 | <LOD | 255 | <LOD | 300 |
| 473 | A4-15 | 2 | 7/19/02 | <LOD | 54.45 | 192 | 39.9 | 50.7 | 25.9 | 178.2 | 71.7 | <LOD | 52.65 | <LOD | 22.05 | <LOD | 43.65 | <LOD | 34.95 | 1480 | 200 | <LOD | 255 | <LOD | 315 |
| 476 | A4-15 | 4 | 7/19/02 | 49.9 | 32.5 | 221.8 | 37.4 | 71.4 | 24.9 | 119.9 | 53.8 | <LOD | 51.45 | <LOD | 18.6 | <LOD | 36.9 | <LOD | 24.75 | <LOD | 99.9 | <LOD | 150 | <LOD | 225 |
| 469 | A4-16 | 3 | 7/19/02 | <LOD | 44.4 | 198.3 | 37.7 | 65.3 | 25.8 | 157.3 | 63.6 | <LOD | 40.05 | <LOD | 19.95 | <LOD | 34.2 | <LOD | 30.3 | 894.4 | 140 | <LOD | 225 | <LOD | 315 |
| 472 | A4-16 | 4 | 7/19/02 | <LOD | 39.9 | 214.4 | 36.2 | 49.9 | 22.3 | 114.1 | 51.8 | <LOD | 48.15 | <LOD | 20.55 | <LOD | 40.2 | <LOD | 28.95 | 1560 | 170 | <LOD | 2 | | |

Appendix C: XRF Data for the Manufacturing Area
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| XLNo | Boring Location | Depth (ft) | Date | Co | Co Error | Fe | Fe Error | Mn | Mn Error | Cr | Cr Error | Eu | Eu Error | La | La Error | Ba | Ba Error | Cs | Cs Error | Te | Te Error | Sb | Sb Error | Sn | Sn Error | |
|------|-----------------|------------|---------|------|----------|-----|----------|--------|----------|------|----------|------|----------|------|----------|-------|----------|-------|----------|--------|----------|--------|----------|--------|----------|-----|
| 507 | A4-1 | 6 | 7/19/02 | <LOD | | 405 | 8748.8 | 790 | <LOD | 675 | <LOD | 720 | <LOD | 900 | <LOD | 225 | <LOD | 141.6 | <LOD | 180 | <LOD | 210 | <LOD | 130.05 | <LOD | 630 |
| 510 | A4-1 | 8 | 7/19/02 | <LOD | | 360 | 6886.4 | 680 | 1169.6 | 470 | <LOD | 600 | <LOD | 630 | <LOD | 15.45 | <LOD | 435 | <LOD | 285 | <LOD | 165 | <LOD | 150 | <LOD | 645 |
| 482 | A4-2 | 2.5 | 7/19/02 | <LOD | | 270 | 4579.2 | 480 | <LOD | 420 | <LOD | 510 | <LOD | 1125 | <LOD | 315 | <LOD | 315 | <LOD | 113.85 | <LOD | 150 | <LOD | 165 | <LOD | 750 |
| 485 | A4-2 | 4 | 7/19/02 | <LOD | | 510 | 18099.2 | 1300 | <LOD | 840 | <LOD | 795 | <LOD | 810 | <LOD | 14.25 | <LOD | 270 | <LOD | 150 | <LOD | 18.6 | <LOD | 165 | <LOD | 645 |
| 503 | A4-3 | 2 | 7/19/02 | <LOD | | 525 | 18188.8 | 1300 | <LOD | 855 | <LOD | 705 | <LOD | 690 | <LOD | 18.3 | <LOD | 405 | <LOD | 225 | <LOD | 45 | <LOD | 43.65 | <LOD | 705 |
| 506 | A4-3 | 4 | 7/19/02 | <LOD | | 600 | 20096 | 1500 | <LOD | 975 | <LOD | 900 | <LOD | 870 | <LOD | 14.55 | 440 | 270 | <LOD | 134.25 | <LOD | 99.15 | <LOD | 37.95 | <LOD | 585 |
| 512 | A4-4 | 4 | 7/20/02 | <LOD | | 510 | 16000 | 1200 | <LOD | 780 | <LOD | 660 | <LOD | 1080 | <LOD | 210 | <LOD | 480 | <LOD | 240 | <LOD | 24.45 | <LOD | 39.75 | <LOD | 780 |
| 515 | A4-4 | 5 | 7/20/02 | <LOD | | 525 | 17497.6 | 1300 | <LOD | 840 | <LOD | 765 | <LOD | 840 | <LOD | 17.4 | <LOD | 285 | <LOD | 150 | <LOD | 42.45 | <LOD | 150 | <LOD | 705 |
| 490 | A4-6 | 2 | 7/19/02 | <LOD | | 360 | 6969.6 | 710 | <LOD | 660 | <LOD | 630 | <LOD | 1215 | <LOD | 210 | <LOD | 660 | <LOD | 345 | <LOD | 165 | <LOD | 52.5 | <LOD | 840 |
| 493 | A4-6 | 4 | 7/19/02 | <LOD | | 570 | 16793.6 | 1300 | <LOD | 840 | <LOD | 765 | <LOD | 630 | <LOD | 165 | <LOD | 315 | <LOD | 160 | <LOD | 19.35 | <LOD | 31.2 | <LOD | 585 |
| 520 | A4-7 | 3 | 7/20/02 | <LOD | | 345 | 4688 | 640 | <LOD | 555 | <LOD | 630 | <LOD | 930 | <LOD | 17.7 | <LOD | 510 | <LOD | 165 | <LOD | 21.9 | <LOD | 165 | <LOD | 690 |
| 523 | A4-7 | 4 | 7/20/02 | <LOD | | 525 | 17190.4 | 1300 | <LOD | 840 | <LOD | 810 | <LOD | 525 | <LOD | 18.75 | <LOD | 555 | <LOD | 38.4 | <LOD | 21.45 | <LOD | 180 | <LOD | 735 |
| 524 | A4-8 | 5 | 7/20/02 | <LOD | | 390 | 7238.4 | 740 | <LOD | 585 | <LOD | 600 | <LOD | 1065 | <LOD | 20.25 | 880 | 510 | <LOD | 330 | <LOD | 48.6 | <LOD | 165 | <LOD | 750 |
| 527 | A4-8 | 6 | 7/20/02 | <LOD | | 375 | 9376 | 800 | <LOD | 645 | <LOD | 675 | <LOD | 750 | <LOD | 180 | <LOD | 435 | <LOD | 150 | <LOD | 20.55 | <LOD | 28.05 | <LOD | 645 |
| 478 | A4-9 | 2 | 7/19/02 | <LOD | | 585 | 19289.6 | 1400 | <LOD | 915 | <LOD | 810 | <LOD | 855 | <LOD | 18.15 | <LOD | 435 | <LOD | 34.95 | <LOD | 42.6 | <LOD | 42.6 | <LOD | 675 |
| 481 | A4-9 | 4 | 7/19/02 | <LOD | | 420 | 12896 | 1000 | <LOD | 720 | <LOD | 735 | <LOD | 810 | <LOD | 195 | <LOD | 585 | <LOD | 255 | <LOD | 24.9 | <LOD | 31.65 | <LOD | 690 |
| 516 | A4-10 | 7 | 7/20/02 | <LOD | | 555 | 15692.8 | 1300 | <LOD | 915 | <LOD | 825 | <LOD | 855 | <LOD | 360 | <LOD | 660 | <LOD | 42.6 | <LOD | 21 | <LOD | 36.15 | <LOD | 675 |
| 519 | A4-10 | 8 | 7/20/02 | <LOD | | 525 | 9484.8 | 1000 | <LOD | 870 | 1280 | 740 | <LOD | 630 | <LOD | 255 | <LOD | 420 | <LOD | 285 | <LOD | 23.4 | <LOD | 27.9 | <LOD | 675 |
| 486 | A4-11 | 2 | 7/19/02 | <LOD | | 555 | 15488 | 1300 | <LOD | 900 | <LOD | 855 | <LOD | 570 | <LOD | 180 | <LOD | 360 | <LOD | 148.5 | <LOD | 146.85 | <LOD | 41.55 | <LOD | 645 |
| 489 | A4-11 | 4 | 7/19/02 | <LOD | | 525 | 11596.8 | 1100 | <LOD | 870 | <LOD | 990 | <LOD | 975 | <LOD | 195 | <LOD | 615 | <LOD | 225 | <LOD | 46.5 | <LOD | 165 | <LOD | 765 |
| 495 | A4-12 | 2 | 7/19/02 | <LOD | | 360 | 10598.4 | 829.6 | <LOD | 630 | <LOD | 630 | <LOD | 705 | <LOD | 36.3 | <LOD | 420 | <LOD | 165 | <LOD | 165 | <LOD | 165 | <LOD | 750 |
| 498 | A4-12 | 4 | 7/19/02 | <LOD | | 600 | 17894.4 | 1400 | 2560 | 780 | <LOD | 930 | <LOD | 705 | <LOD | 16.05 | <LOD | 360 | <LOD | 240 | <LOD | 22.2 | <LOD | 34.05 | <LOD | 675 |
| 528 | A4-13 | 2.5 | 7/20/02 | <LOD | | 690 | 18598.4 | 1699.2 | <LOD | 1140 | <LOD | 1065 | <LOD | 750 | <LOD | 14.85 | <LOD | 375 | <LOD | 195 | <LOD | 111.45 | <LOD | 115.05 | <LOD | 555 |
| 532 | A4-13 | 3.5 | 7/20/02 | <LOD | | 510 | 12198.4 | 1100 | <LOD | 855 | <LOD | 795 | <LOD | 1005 | <LOD | 195 | <LOD | 540 | <LOD | 120.15 | <LOD | 165 | <LOD | 39.75 | <LOD | 765 |
| 499 | A4-14 | 2 | 7/19/02 | <LOD | | 630 | 21888 | 1600 | <LOD | 1035 | <LOD | 975 | <LOD | 930 | <LOD | 210 | <LOD | 315 | <LOD | 255 | <LOD | 144 | <LOD | 37.05 | <LOD | 645 |
| 502 | A4-14 | 4 | 7/19/02 | <LOD | | 480 | 12000 | 1100 | <LOD | 825 | <LOD | 870 | <LOD | 720 | <LOD | 240 | <LOD | 630 | <LOD | 46.35 | <LOD | 195 | <LOD | 36.15 | <LOD | 825 |
| 473 | A4-15 | 2 | 7/19/02 | <LOD | | 585 | 16691.2 | 1400 | 1269.6 | 690 | <LOD | 915 | <LOD | 1170 | <LOD | 225 | 783.2 | 500 | <LOD | 285 | <LOD | 300 | <LOD | 180 | <LOD | 690 |
| 476 | A4-15 | 4 | 7/19/02 | <LOD | | 360 | 8806.4 | 780 | 790 | 460 | <LOD | 690 | <LOD | 1035 | <LOD | 147.6 | <LOD | 285 | <LOD | 180 | <LOD | 119.7 | <LOD | 122.25 | <LOD | 615 |
| 469 | A4-16 | 3 | 7/19/02 | <LOD | | 555 | 19289.6 | 1400 | <LOD | 975 | <LOD | 930 | <LOD | 675 | <LOD | 21.45 | <LOD | 570 | <LOD | 180 | <LOD | 67.2 | <LOD | 180 | <LOD | 825 |
| 472 | A4-16 | 4 | 7/19/02 | <LOD | | 465 | 16000 | 1100 | <LOD | 810 | <LOD | 705 | <LOD | 810 | <LOD | 210 | 530.8 | 340 | <LOD | 210 | <LOD | 20.55 | <LOD | 25.95 | <LOD | 570 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |

Appendix C: XRF Data for the Manufacturing Area
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| XLNo | Boring Location | Depth (ft) | Date | Cd | Cd Error | Ag | Ag Error | Pd | Pd Error |
|------|-----------------|------------|---------|------|----------|------|----------|------|----------|
| 507 | A4-1 | 6 | 7/19/02 | <LOD | 7.5 | <LOD | 225 | <LOD | 21 |
| 510 | A4-1 | 8 | 7/19/02 | <LOD | 8.55 | <LOD | 195 | <LOD | 67.35 |
| 482 | A4-2 | 2.5 | 7/19/02 | <LOD | 9.75 | <LOD | 150 | <LOD | 85.8 |
| 485 | A4-2 | 4 | 7/19/02 | <LOD | 93.3 | <LOD | 210 | <LOD | 14.25 |
| 503 | A4-3 | 2 | 7/19/02 | <LOD | 131.85 | <LOD | 285 | <LOD | 25.8 |
| 506 | A4-3 | 4 | 7/19/02 | <LOD | 142.8 | <LOD | 210 | <LOD | 16.95 |
| 512 | A4-4 | 4 | 7/20/02 | <LOD | 144.45 | <LOD | 300 | <LOD | 9 |
| 515 | A4-4 | 5 | 7/20/02 | <LOD | 122.7 | <LOD | 285 | <LOD | 143.25 |
| 490 | A4-6 | 2 | 7/19/02 | <LOD | 85.95 | <LOD | 315 | <LOD | 136.35 |
| 493 | A4-6 | 4 | 7/19/02 | <LOD | 102.9 | <LOD | 255 | <LOD | 95.55 |
| 520 | A4-7 | 3 | 7/20/02 | <LOD | 135.9 | <LOD | 300 | <LOD | 127.65 |
| 523 | A4-7 | 4 | 7/20/02 | <LOD | 10.5 | <LOD | 315 | <LOD | 100.05 |
| 524 | A4-8 | 5 | 7/20/02 | <LOD | 136.65 | <LOD | 255 | <LOD | 26.55 |
| 527 | A4-8 | 6 | 7/20/02 | <LOD | 8.4 | <LOD | 225 | <LOD | 79.95 |
| 478 | A4-9 | 2 | 7/19/02 | <LOD | 129.45 | <LOD | 270 | <LOD | 85.8 |
| 481 | A4-9 | 4 | 7/19/02 | <LOD | 8.1 | <LOD | 255 | <LOD | 46.05 |
| 516 | A4-10 | 7 | 7/20/02 | <LOD | 114 | <LOD | 345 | <LOD | 9.75 |
| 519 | A4-10 | 8 | 7/20/02 | <LOD | 7.95 | <LOD | 270 | <LOD | 7.05 |
| 486 | A4-11 | 2 | 7/19/02 | <LOD | 104.85 | <LOD | 225 | <LOD | 23.85 |
| 489 | A4-11 | 4 | 7/19/02 | <LOD | 32.4 | <LOD | 270 | <LOD | 47.25 |
| 495 | A4-12 | 2 | 7/19/02 | <LOD | 32.25 | <LOD | 345 | <LOD | 26.7 |
| 498 | A4-12 | 4 | 7/19/02 | <LOD | 115.95 | <LOD | 300 | <LOD | 8.7 |
| 528 | A4-13 | 2.5 | 7/20/02 | <LOD | 16.05 | <LOD | 180 | <LOD | 12.9 |
| 532 | A4-13 | 3.5 | 7/20/02 | <LOD | 32.25 | <LOD | 315 | <LOD | 88.35 |
| 499 | A4-14 | 2 | 7/19/02 | <LOD | 28.95 | <LOD | 255 | <LOD | 80.55 |
| 502 | A4-14 | 4 | 7/19/02 | <LOD | 9.3 | <LOD | 115.95 | <LOD | 30.9 |
| 473 | A4-15 | 2 | 7/19/02 | <LOD | 11.55 | <LOD | 300 | <LOD | 137.25 |
| 476 | A4-15 | 4 | 7/19/02 | <LOD | 24.15 | <LOD | 255 | <LOD | 19.95 |
| 469 | A4-16 | 3 | 7/19/02 | <LOD | 150 | <LOD | 270 | <LOD | 40.2 |
| 472 | A4-16 | 4 | 7/19/02 | <LOD | 7.2 | <LOD | 150 | <LOD | 66.75 |
| 457 | A4-17 | 4 | 7/19/02 | <LOD | 24.45 | <LOD | 210 | <LOD | 66.45 |
| 460 | A4-17 | 6 | 7/19/02 | <LOD | 94.5 | <LOD | 225 | <LOD | 21.45 |
| 449 | A4-18 | 2.5 | 7/19/02 | <LOD | 28.35 | <LOD | 195 | <LOD | 22.8 |
| 452 | A4-18 | 4 | 7/19/02 | <LOD | 26.1 | <LOD | 300 | <LOD | 81.9 |
| 461 | A4-19 | 2 | 7/19/02 | <LOD | 35.55 | <LOD | 165 | <LOD | 27.6 |
| 464 | A4-19 | 3 | 7/19/02 | <LOD | 114.15 | <LOD | 270 | <LOD | 104.7 |
| 545 | A4-20 | 5 | 7/20/02 | <LOD | 34.2 | <LOD | 165 | <LOD | 27.15 |
| 546 | A4-20 | 6 | 7/20/02 | <LOD | 165 | <LOD | 300 | <LOD | 9 |
| 453 | A4-21 | 2.5 | 7/19/02 | <LOD | 25.2 | <LOD | 300 | <LOD | 21 |
| 456 | A4-21 | 4 | 7/19/02 | <LOD | 9.9 | <LOD | 360 | <LOD | 9.9 |
| 465 | A4-22 | 2 | 7/19/02 | <LOD | 27.45 | <LOD | 210 | <LOD | 90.9 |
| 468 | A4-22 | 3 | 7/19/02 | <LOD | 21.75 | <LOD | 180 | <LOD | 17.4 |
| 541 | A4-23 | 3 | 7/20/02 | <LOD | 32.85 | <LOD | 345 | <LOD | 27 |
| 542 | A4-23 | 4 | 7/20/02 | <LOD | 9.9 | <LOD | 240 | <LOD | 76.35 |
| 420 | A4-24 | 2 | 7/18/02 | <LOD | 7.2 | <LOD | 300 | <LOD | 8.1 |
| 423 | A4-24 | 4 | 7/18/02 | <LOD | 79.65 | <LOD | 255 | <LOD | 21.75 |
| 533 | A4-25 | 2 | 7/20/02 | <LOD | 7.35 | <LOD | 150 | <LOD | 75.75 |
| 538 | A4-25 | 3 | 7/20/02 | <LOD | 129.75 | <LOD | 285 | <LOD | 25.5 |

<LOD: Below detection limit

Appendix C: XRF Data for the Manufacturing Area
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| XLNo | Boring Location | Depth (ft) | Date | Mo | Mo Error | Zr | Zr Error | Sr | Sr Error | Rb | Rb Error | Pb | Pb Error | Se | Se Error | As | As Error | Hg | Hg Error | Zn | Zn Error | Cu | Cu Error | Ni | Ni Error |
|------|-----------------|------------|----------|------|----------|-------|----------|------|----------|-------|----------|-------|----------|------|----------|------|----------|------|----------|--------|----------|------|----------|--------|----------|
| 213 | WA-1 | 2 | 07/17/02 | <LOD | 50.1 | 186.5 | 38.4 | <LOD | 34.2 | 133.3 | 62.1 | <LOD | 49.35 | <LOD | 23.4 | <LOD | 37.5 | <LOD | 29.1 | 155.3 | 86.7 | <LOD | 195 | <LOD | 315 |
| 215 | WA-1 | 4 | 07/17/02 | <LOD | 42.9 | 220.8 | 38.8 | 52 | 23.8 | 138.6 | 59.2 | 72.1 | 42.7 | <LOD | 18.9 | <LOD | 46.35 | <LOD | 28.65 | <LOD | 104.1 | <LOD | 150 | <LOD | 255 |
| 217 | WA-2 | 2 | 07/17/02 | <LOD | 48.3 | 214 | 40.8 | 88.6 | 29.4 | 173.7 | 69 | <LOD | 68.25 | <LOD | 24 | <LOD | 45.15 | <LOD | 23.1 | <LOD | 122.85 | <LOD | 195 | <LOD | 315 |
| 220 | WA-2 | 4 | 07/17/02 | <LOD | 40.35 | 232.2 | 36.5 | 80.1 | 24.7 | 105.5 | 49.4 | <LOD | 43.05 | <LOD | 16.65 | <LOD | 38.4 | <LOD | 29.55 | <LOD | 85.05 | <LOD | 127.2 | <LOD | 195 |
| 221 | WA-3 | 2 | 07/17/02 | <LOD | 53.4 | 250.8 | 44.9 | 39 | 24.6 | 143.4 | 65.7 | <LOD | 61.65 | <LOD | 25.2 | <LOD | 46.8 | <LOD | 33 | 233.2 | 98.8 | <LOD | 210 | 365.2 | 240 |
| 224 | WA-3 | 4 | 07/17/02 | <LOD | 44.1 | 232.2 | 37.3 | 64.4 | 23.6 | 70.9 | 43.7 | <LOD | 47.55 | <LOD | 20.55 | <LOD | 36.3 | <LOD | 22.05 | <LOD | 96.15 | <LOD | 165 | <LOD | 270 |
| 225 | WA-4 | 2 | 07/17/02 | <LOD | 41.1 | 150.1 | 31.6 | 41.2 | 21.5 | 119.6 | 53.3 | <LOD | 37.2 | <LOD | 19.65 | <LOD | 30.45 | <LOD | 21 | 440 | 100 | <LOD | 195 | 416.8 | 200 |
| 228 | WA-4 | 4 | 07/17/02 | <LOD | 43.35 | 193.3 | 37.3 | 91.8 | 28.3 | 148.6 | 61.8 | <LOD | 51.6 | <LOD | 19.5 | <LOD | 41.4 | <LOD | 25.5 | <LOD | 91.95 | <LOD | 165 | <LOD | 285 |
| 229 | WA-5 | 2 | 07/17/02 | 49 | 31.6 | 181.5 | 34.6 | 83.1 | 26.2 | 134.3 | 56.7 | <LOD | 45.75 | <LOD | 15.45 | <LOD | 32.4 | <LOD | 30 | 122.5 | 72.1 | <LOD | 165 | <LOD | 270 |
| 232 | WA-5 | 4 | 07/17/02 | <LOD | 15.15 | 142.2 | 32.9 | 37.2 | 22.6 | 143.9 | 61.4 | <LOD | 45.45 | <LOD | 14.7 | <LOD | 37.65 | <LOD | 26.85 | 215.8 | 92.1 | <LOD | 210 | 773.2 | 240 |
| 233 | WA-6 | 2 | 07/17/02 | <LOD | 43.35 | 217.4 | 39 | 37.1 | 22.4 | 174.9 | 65.8 | <LOD | 46.5 | <LOD | 23.1 | <LOD | 37.8 | <LOD | 26.25 | 175 | 83.8 | <LOD | 180 | <LOD | 300 |
| 236 | WA-6 | 4 | 07/17/02 | <LOD | 40.5 | 212.4 | 37.6 | 33.7 | 21.5 | 158 | 61.6 | <LOD | 38.4 | <LOD | 19.05 | <LOD | 29.25 | <LOD | 29.25 | <LOD | 105.15 | <LOD | 180 | <LOD | 315 |
| 237 | WA-7 | 2 | 07/17/02 | <LOD | 56.55 | 238.4 | 46.6 | 46 | 27 | <LOD | 80.85 | <LOD | 47.7 | <LOD | 28.65 | <LOD | 43.05 | <LOD | 38.55 | 1309.6 | 200 | <LOD | 285 | <LOD | 375 |
| 240 | WA-7 | 4 | 07/17/02 | <LOD | 40.5 | 184.5 | 36 | 62.3 | 24.9 | 120.9 | 56.1 | <LOD | 37.95 | <LOD | 22.05 | <LOD | 30.9 | <LOD | 26.85 | <LOD | 106.05 | <LOD | 165 | <LOD | 255 |
| 257 | WA-8 | 2 | 07/17/02 | <LOD | 42.3 | 213.8 | 37.3 | 40.1 | 21.9 | 132.1 | 56.7 | 73 | 43.8 | <LOD | 25.35 | <LOD | 44.25 | <LOD | 28.2 | 1509.6 | 180 | <LOD | 225 | 452 | 220 |
| 261 | WA-8 | 4 | 07/17/02 | <LOD | 40.05 | 239.8 | 35.6 | 55.9 | 21.5 | 94.6 | 45.2 | 175 | 53.6 | <LOD | 19.2 | <LOD | 59.1 | <LOD | 29.55 | 2748.8 | 220 | <LOD | 195 | <LOD | 195 |
| 260 | WA-8-DUP | 2 | 07/17/02 | <LOD | 47.4 | 221.4 | 37.3 | <LOD | 27.9 | 96.6 | 49.5 | <LOD | 52.35 | <LOD | 22.5 | <LOD | 42.6 | <LOD | 28.05 | 1500 | 180 | <LOD | 225 | <LOD | 285 |
| 263 | WA-8-DUP | 4 | 07/17/02 | <LOD | 39.45 | 201.1 | 34.8 | 63.4 | 23.5 | 100.5 | 49.1 | 183.3 | 57.9 | <LOD | 21 | <LOD | 65.1 | <LOD | 33.3 | 2840 | 240 | <LOD | 255 | 367.4 | 180 |
| 250 | WA-9 | 2 | 07/17/02 | <LOD | 54 | 250.2 | 44.8 | 44.2 | 25.1 | 122.2 | 61.3 | <LOD | 55.8 | <LOD | 17.7 | <LOD | 46.2 | <LOD | 33.15 | 1220 | 180 | <LOD | 300 | 2179.2 | 340 |
| 247 | WA-9-DUP | 2 | 07/17/02 | <LOD | 47.55 | 265.8 | 41.2 | 37.4 | 21.7 | 91.3 | 49.2 | 79.3 | 44 | <LOD | 22.65 | <LOD | 48.9 | <LOD | 30.75 | 1240 | 160 | <LOD | 210 | <LOD | 270 |
| 251 | WA-9 | 4 | 07/17/02 | <LOD | 36.75 | 209 | 32.9 | 48.8 | 20.4 | 84 | 42.4 | 233.2 | 59.4 | <LOD | 16.8 | <LOD | 64.35 | <LOD | 25.5 | 1329.6 | 150 | <LOD | 195 | 301 | 160 |
| 256 | WA-9 | 8 | 07/17/02 | <LOD | 44.7 | 163.3 | 34.8 | 43.8 | 23.4 | 144.9 | 61.7 | <LOD | 56.4 | <LOD | 19.05 | <LOD | 40.5 | <LOD | 32.55 | 698.4 | 130 | <LOD | 210 | <LOD | 315 |
| 243 | WA-10 | 2 | 07/17/02 | <LOD | 42.75 | 152.2 | 32.2 | <LOD | 28.35 | 135.2 | 56.9 | <LOD | 36 | <LOD | 23.1 | <LOD | 35.25 | <LOD | 25.05 | 1020 | 150 | <LOD | 225 | 706.8 | 220 |
| 246 | WA-10 | 4 | 07/17/02 | <LOD | 42.15 | 144.6 | 31.6 | <LOD | 29.85 | 93.4 | 49.4 | <LOD | 51.45 | <LOD | 21.45 | <LOD | 34.2 | <LOD | 24.15 | <LOD | 94.2 | <LOD | 165 | <LOD | 240 |

<LOD:Below detection limit

Appendix C: XRF Data for the Manufacturing Area
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| XLNo | Boring Location | Depth (ft) | Date | Co | Co Error | Fe | Fe Error | Mn | Mn Error | Cr | Cr Error | Eu | Eu Error | La | La Error | Ba | Ba Error | Cs | Cs Error | Te | Te Error | Sb | Sb Error | Sn |
|------|-----------------|------------|----------|-------|----------|---------|----------|--------|----------|------|----------|------|----------|------|----------|------|----------|------|----------|------|----------|------|----------|------|
| 213 | WA-1 | 2 | 07/17/02 | <LOD | 555 | 17792 | 1400 | <LOD | 885 | <LOD | 795 | <LOD | 435 | <LOD | 255 | <LOD | 450 | <LOD | 240 | <LOD | 22.5 | <LOD | 27.9 | <LOD |
| 215 | WA-1 | 4 | 07/17/02 | <LOD | 555 | 17894.4 | 1300 | <LOD | 900 | <LOD | 750 | <LOD | 645 | <LOD | 255 | <LOD | 495 | <LOD | 148.8 | <LOD | 195 | <LOD | 39.3 | <LOD |
| 217 | WA-2 | 2 | 07/17/02 | <LOD | 525 | 15296 | 1200 | <LOD | 840 | <LOD | 750 | <LOD | 1065 | <LOD | 41.4 | <LOD | 525 | <LOD | 165 | <LOD | 22.05 | <LOD | 30 | <LOD |
| 220 | WA-2 | 4 | 07/17/02 | 532.4 | 280 | 10598.4 | 840 | <LOD | 645 | <LOD | 570 | <LOD | 675 | <LOD | 14.25 | <LOD | 360 | <LOD | 165 | <LOD | 107.85 | <LOD | 165 | <LOD |
| 221 | WA-3 | 2 | 07/17/02 | <LOD | 615 | 21094.4 | 1600 | <LOD | 1005 | <LOD | 855 | <LOD | 585 | <LOD | 240 | <LOD | 585 | <LOD | 405 | <LOD | 285 | <LOD | 50.85 | <LOD |
| 224 | WA-3 | 4 | 07/17/02 | <LOD | 435 | 11699.2 | 920 | 1280 | 530 | <LOD | 750 | <LOD | 840 | <LOD | 16.95 | <LOD | 510 | <LOD | 34.35 | <LOD | 146.1 | <LOD | 30.45 | <LOD |
| 225 | WA-4 | 2 | 07/17/02 | <LOD | 495 | 17600 | 1200 | <LOD | 750 | <LOD | 720 | <LOD | 1244.4 | <LOD | 330 | <LOD | 555 | <LOD | 270 | <LOD | 180 | <LOD | 35.7 | <LOD |
| 228 | WA-4 | 4 | 07/17/02 | <LOD | 480 | 15590.4 | 1200 | <LOD | 810 | <LOD | 855 | <LOD | 1350 | <LOD | 22.8 | <LOD | 615 | <LOD | 56.85 | <LOD | 71.85 | <LOD | 52.35 | <LOD |
| 229 | WA-5 | 2 | 07/17/02 | <LOD | 405 | 10297.6 | 869.6 | <LOD | 630 | <LOD | 600 | <LOD | 945 | <LOD | 19.95 | <LOD | 645 | <LOD | 180 | <LOD | 165 | <LOD | 240 | <LOD |
| 232 | WA-5 | 4 | 07/17/02 | <LOD | 555 | 18688 | 1400 | <LOD | 870 | <LOD | 720 | <LOD | 885 | <LOD | 17.7 | <LOD | 435 | <LOD | 33.75 | <LOD | 40.95 | <LOD | 35.25 | <LOD |
| 233 | WA-6 | 2 | 07/17/02 | <LOD | 450 | 11296 | 969.6 | <LOD | 705 | <LOD | 750 | <LOD | 1065 | <LOD | 345 | <LOD | 540 | <LOD | 45 | <LOD | 22.8 | <LOD | 195 | <LOD |
| 236 | WA-6 | 4 | 07/17/02 | <LOD | 465 | 12000 | 989.6 | <LOD | 735 | <LOD | 765 | <LOD | 870 | <LOD | 180 | <LOD | 165 | <LOD | 225 | <LOD | 165 | <LOD | 46.2 | <LOD |
| 237 | WA-7 | 2 | 07/17/02 | <LOD | 525 | 9888 | 1000 | <LOD | 780 | <LOD | 780 | <LOD | 540 | <LOD | 147.6 | <LOD | 435 | <LOD | 240 | <LOD | 20.7 | <LOD | 34.95 | <LOD |
| 240 | WA-7 | 4 | 07/17/02 | <LOD | 465 | 11795.2 | 989.6 | <LOD | 780 | <LOD | 690 | <LOD | 660 | <LOD | 132.3 | <LOD | 345 | <LOD | 150 | <LOD | 18 | <LOD | 24 | <LOD |
| 257 | WA-8 | 2 | 07/17/02 | <LOD | 615 | 25894.4 | 1699.2 | <LOD | 1020 | <LOD | 885 | <LOD | 795 | <LOD | 22.05 | <LOD | 330 | <LOD | 315 | <LOD | 300 | <LOD | 225 | <LOD |
| 261 | WA-8 | 4 | 07/17/02 | <LOD | 300 | 6108.8 | 580 | <LOD | 465 | <LOD | 480 | <LOD | 495 | <LOD | 15.3 | <LOD | 360 | <LOD | 26.4 | <LOD | 128.55 | <LOD | 39.15 | <LOD |
| 260 | WA-8-DUP | 2 | 07/17/02 | 984.8 | 460 | 27776 | 1800 | 5289.6 | 949.6 | <LOD | 1005 | <LOD | 1005 | <LOD | 210 | <LOD | 480 | <LOD | 61.5 | <LOD | 180 | <LOD | 180 | <LOD |
| 263 | WA-8-DUP | 4 | 07/17/02 | <LOD | 300 | 6288 | 620 | <LOD | 525 | <LOD | 570 | <LOD | 885 | <LOD | 93.45 | <LOD | 330 | <LOD | 210 | <LOD | 44.25 | <LOD | 42.9 | <LOD |
| 250 | WA-9 | 2 | 07/17/02 | <LOD | 405 | 6278.4 | 740 | <LOD | 720 | <LOD | 780 | <LOD | 900 | <LOD | 18.45 | <LOD | 510 | <LOD | 70.5 | <LOD | 21.75 | <LOD | 195 | <LOD |
| 247 | WA-9-DUP | 2 | 07/17/02 | <LOD | 375 | 7475.2 | 730 | <LOD | 570 | <LOD | 570 | <LOD | 1005 | <LOD | 17.25 | <LOD | 435 | <LOD | 195 | <LOD | 138.15 | <LOD | 41.25 | <LOD |
| 251 | WA-9 | 4 | 07/17/02 | <LOD | 285 | 5648 | 550 | <LOD | 480 | <LOD | 525 | <LOD | 600 | <LOD | 270 | <LOD | 450 | <LOD | 225 | <LOD | 59.7 | <LOD | 165 | <LOD |
| 256 | WA-9 | 8 | 07/17/02 | <LOD | 495 | 14297.6 | 1100 | <LOD | 870 | <LOD | 765 | <LOD | 585 | <LOD | 125.85 | <LOD | 315 | <LOD | 103.5 | <LOD | 99.3 | <LOD | 145.95 | <LOD |
| 243 | WA-10 | 2 | 07/17/02 | <LOD | 480 | 14297.6 | 1100 | <LOD | 795 | <LOD | 705 | <LOD | 465 | <LOD | 146.4 | <LOD | 255 | <LOD | 117.15 | <LOD | 17.85 | <LOD | 30 | <LOD |
| 246 | WA-10 | 4 | 07/17/02 | <LOD | 420 | 11398.4 | 949.6 | 1908.8 | 600 | <LOD | 630 | <LOD | 870 | <LOD | 180 | <LOD | 375 | <LOD | 195 | <LOD | 137.85 | <LOD | 41.4 | <LOD |

<LOD:Below detection limit

Appendix C: XRF Data for the Manufacturing Area
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| XLNo | Boring Location | Depth (ft) | Date | Sn Error | Cd | Cd Error | Ag | Ag Error | Pd | Pd Error |
|------|-----------------|------------|----------|----------|------|----------|------|----------|------|----------|
| 213 | WA-1 | 2 | 07/17/02 | 705 | <LOD | 9.15 | <LOD | 225 | <LOD | 76.8 |
| 215 | WA-1 | 4 | 07/17/02 | 660 | <LOD | 28.95 | <LOD | 210 | <LOD | 23.1 |
| 217 | WA-2 | 2 | 07/17/02 | 630 | <LOD | 6.75 | <LOD | 225 | <LOD | 29.1 |
| 220 | WA-2 | 4 | 07/17/02 | 615 | <LOD | 129.15 | <LOD | 225 | <LOD | 84.6 |
| 221 | WA-3 | 2 | 07/17/02 | 810 | <LOD | 39.9 | <LOD | 405 | <LOD | 47.7 |
| 224 | WA-3 | 4 | 07/17/02 | 600 | <LOD | 7.2 | <LOD | 315 | <LOD | 8.7 |
| 225 | WA-4 | 2 | 07/17/02 | 750 | <LOD | 12.45 | <LOD | 225 | <LOD | 165 |
| 228 | WA-4 | 4 | 07/17/02 | 810 | <LOD | 54.3 | <LOD | 240 | <LOD | 150 |
| 229 | WA-5 | 2 | 07/17/02 | 840 | <LOD | 34.5 | <LOD | 285 | <LOD | 27.6 |
| 232 | WA-5 | 4 | 07/17/02 | 720 | <LOD | 29.4 | <LOD | 255 | <LOD | 23.7 |
| 233 | WA-6 | 2 | 07/17/02 | 825 | <LOD | 165 | <LOD | 360 | <LOD | 10.95 |
| 236 | WA-6 | 4 | 07/17/02 | 735 | <LOD | 43.5 | <LOD | 240 | <LOD | 35.1 |
| 237 | WA-7 | 2 | 07/17/02 | 570 | <LOD | 139.65 | <LOD | 255 | <LOD | 64.65 |
| 240 | WA-7 | 4 | 07/17/02 | 600 | <LOD | 7.05 | <LOD | 225 | <LOD | 6.15 |
| 257 | WA-8 | 2 | 07/17/02 | 885 | <LOD | 48.6 | <LOD | 300 | <LOD | 39 |
| 261 | WA-8 | 4 | 07/17/02 | 645 | <LOD | 150 | <LOD | 165 | <LOD | 5.7 |
| 260 | WA-8-DUP | 2 | 07/17/02 | 855 | <LOD | 50.85 | <LOD | 450 | <LOD | 138.45 |
| 263 | WA-8-DUP | 4 | 07/17/02 | 675 | <LOD | 130.05 | <LOD | 285 | <LOD | 86.25 |
| 250 | WA-9 | 2 | 07/17/02 | 750 | <LOD | 375 | <LOD | 270 | <LOD | 12.3 |
| 247 | WA-9-DUP | 2 | 07/17/02 | 660 | <LOD | 116.4 | <LOD | 285 | <LOD | 23.1 |
| 251 | WA-9 | 4 | 07/17/02 | 795 | <LOD | 86.55 | <LOD | 300 | <LOD | 148.35 |
| 256 | WA-9 | 8 | 07/17/02 | 510 | <LOD | 97.65 | <LOD | 165 | <LOD | 77.85 |
| 243 | WA-10 | 2 | 07/17/02 | 570 | <LOD | 97.5 | <LOD | 195 | <LOD | 63.9 |
| 246 | WA-10 | 4 | 07/17/02 | 570 | <LOD | 165 | <LOD | 240 | <LOD | 7.8 |

<LOD: Below detection limit

Appendix C: XRF Data for the Manufacturing Area
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| XLNo | Boring Location | Depth (ft) | Date | Mo | Mo Error | Zr | Zr Error | Sr | Sr Error | Rb | Rb Error | Pb | Pb Error | Se | Se Error | As | As Error | Hg | Hg Error | Zn | Zn Error | Cu | Cu Error | Ni | Ni Error |
|------|-----------------|------------|---------|------|----------|-------|----------|-------|----------|-------|----------|------|----------|------|----------|------|----------|------|----------|--------|----------|------|----------|--------|----------|
| 176 | NA-1 | 2 | 7/17/02 | <LOD | 42.15 | 197.5 | 36.1 | 32.3 | 21 | 86.3 | 48.3 | <LOD | 34.05 | <LOD | 20.7 | <LOD | 36.6 | <LOD | 29.1 | 223.8 | 88.6 | <LOD | 195 | 357.6 | 210 |
| 179 | NA-1 | 4 | 7/17/02 | <LOD | 45.75 | 179.6 | 37.4 | 59.5 | 25.9 | 89.5 | 52.9 | <LOD | 31.8 | <LOD | 23.7 | <LOD | 37.2 | <LOD | 28.95 | <LOD | 112.65 | <LOD | 195 | <LOD | 315 |
| 180 | NA-2 | 2 | 7/17/02 | <LOD | 45.9 | 195.6 | 37.4 | 65.5 | 25.6 | 137.7 | 59.9 | <LOD | 47.85 | <LOD | 17.4 | <LOD | 40.05 | <LOD | 27 | <LOD | 109.2 | <LOD | 165 | <LOD | 285 |
| 183 | NA-2 | 4 | 7/17/02 | <LOD | 42.6 | 230 | 39.2 | 66.3 | 25.2 | 142.6 | 59.4 | <LOD | 45.15 | <LOD | 20.7 | <LOD | 33.3 | <LOD | 29.7 | <LOD | 93.45 | <LOD | 165 | <LOD | 285 |
| 184 | NA-3 | 2 | 7/17/02 | <LOD | 42.9 | 189.2 | 38.3 | 35.7 | 23.1 | 112.1 | 57.4 | <LOD | 49.8 | <LOD | 24.3 | <LOD | 39.45 | <LOD | 24 | 207 | 92 | <LOD | 195 | <LOD | 330 |
| 187 | NA-3 | 4 | 7/17/02 | <LOD | 50.4 | 202.8 | 39.5 | 38.3 | 23.7 | 196.3 | 72.4 | <LOD | 62.1 | <LOD | 22.5 | <LOD | 43.65 | <LOD | 28.05 | <LOD | 115.65 | <LOD | 165 | <LOD | 285 |
| 188 | NA-4 | 2 | 7/17/02 | <LOD | 44.55 | 228.8 | 39.9 | 59.3 | 24.9 | 113.8 | 55.4 | <LOD | 47.1 | <LOD | 26.1 | <LOD | 38.55 | <LOD | 29.55 | 416.4 | 100 | <LOD | 165 | <LOD | 240 |
| 191 | NA-4 | 4 | 7/17/02 | <LOD | 58.65 | 135.7 | 38.6 | <LOD | 38.85 | 121 | 67.9 | <LOD | 47.85 | <LOD | 16.05 | <LOD | 42.9 | <LOD | 34.95 | <LOD | 149.4 | <LOD | 255 | 1240 | 330 |
| 192 | NA-5 | 2 | 7/17/02 | <LOD | 46.65 | 146 | 35.7 | 63.9 | 27.4 | 138.1 | 64.6 | <LOD | 49.95 | <LOD | 26.4 | <LOD | 41.7 | <LOD | 29.85 | 196.8 | 90.6 | <LOD | 180 | <LOD | 300 |
| 195 | NA-5 | 4 | 7/17/02 | <LOD | 45.3 | 225.6 | 39.8 | 74.2 | 26.6 | 111 | 55.2 | <LOD | 37.35 | <LOD | 22.35 | <LOD | 36.9 | <LOD | 28.65 | <LOD | 102.45 | <LOD | 165 | <LOD | 255 |
| 196 | NA-6 | 2 | 7/17/02 | <LOD | 42.3 | 136 | 32.1 | 44.5 | 23.3 | 148.4 | 61.7 | <LOD | 41.7 | <LOD | 20.85 | <LOD | 40.8 | <LOD | 30.75 | 122.9 | 80.2 | <LOD | 195 | <LOD | 315 |
| 199 | NA-6 | 4 | 7/17/02 | <LOD | 46.95 | 234 | 44.9 | 107.8 | 33 | 99.1 | 58.9 | <LOD | 63.3 | <LOD | 21.45 | <LOD | 45.75 | <LOD | 30.45 | <LOD | 120.3 | <LOD | 225 | 1069.6 | 280 |
| 208 | NA-7 | 2 | 7/17/02 | <LOD | 51.3 | 139.4 | 34.7 | 43.2 | 24.6 | 100.1 | 56.2 | <LOD | 49.2 | <LOD | 27.3 | <LOD | 38.1 | <LOD | 26.85 | 289 | 100 | <LOD | 210 | 618 | 250 |
| 211 | NA-7 | 4 | 7/17/02 | <LOD | 45.45 | 233 | 40.9 | 55.2 | 25 | 112.4 | 56.4 | <LOD | 43.5 | <LOD | 21.3 | <LOD | 38.85 | <LOD | 32.4 | <LOD | 105.3 | <LOD | 180 | <LOD | 330 |
| 200 | NA-8 | 2 | 7/17/02 | <LOD | 48 | 166.2 | 37 | 44.9 | 24.8 | 91 | 54.2 | <LOD | 46.95 | <LOD | 21.9 | <LOD | 38.25 | <LOD | 33.45 | 1868.8 | 230 | <LOD | 315 | 2819.2 | 370 |
| 202 | NA-8 | 4 | 7/17/02 | <LOD | 41.25 | 185.3 | 35 | 50 | 22.9 | 118.2 | 54.1 | <LOD | 37.8 | <LOD | 17.25 | <LOD | 34.65 | <LOD | 28.5 | 274.2 | 89.7 | <LOD | 180 | <LOD | 285 |
| 204 | NA-9 | 2 | 7/17/02 | <LOD | 45.3 | 214 | 40 | <LOD | 33.45 | 116.6 | 57.7 | <LOD | 47.4 | <LOD | 23.1 | <LOD | 39.75 | <LOD | 29.85 | 584.4 | 130 | <LOD | 225 | 470 | 230 |
| 207 | NA-9 | 4 | 7/17/02 | <LOD | 49.8 | 211.8 | 41.6 | 88.2 | 30 | 92.9 | 55.5 | <LOD | 56.25 | <LOD | 26.4 | <LOD | 42.75 | <LOD | 26.55 | <LOD | 130.95 | <LOD | 240 | 2499.2 | 350 |
| 383 | NA-10 | 2.5 | 7/18/02 | <LOD | 45.45 | 261 | 42.6 | 47.3 | 23.6 | 158.7 | 63.4 | <LOD | 39.6 | <LOD | 21 | <LOD | 39.15 | <LOD | 26.7 | 636 | 140 | <LOD | 270 | 4080 | 410 |
| 386 | NA-10 | 4 | 7/18/02 | <LOD | 39.45 | 169.6 | 29 | 51.5 | 19.8 | 127.3 | 47.8 | <LOD | 40.5 | <LOD | 18 | <LOD | 30 | <LOD | 21.6 | <LOD | 84.75 | <LOD | 138.75 | <LOD | 210 |

<LOD: Below detection limit

Appendix C: XRF Data for the Manufacturing Area
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| XLNo | Boring Location | Depth (ft) | Date | Co | Co Error | Fe | Fe Error | Mn | Mn Error | Cr | Cr Error | Eu | Eu Error | La | La Error | Ba | Ba Error | Cs | Cs Error | Te | Te Error | Sb | Sb Error | Sn | Sn Error |
|------|-----------------|------------|---------|------|----------|---------|----------|------|----------|------|----------|------|----------|------|----------|--------|----------|------|----------|------|----------|------|----------|------|----------|
| 176 | NA-1 | 2 | 7/17/02 | <LOD | 465 | 13696 | 1100 | <LOD | 810 | <LOD | 675 | <LOD | 510 | <LOD | 315 | <LOD | 525 | <LOD | 150 | <LOD | 165 | <LOD | 34.05 | <LOD | 780 |
| 179 | NA-1 | 4 | 7/17/02 | <LOD | 510 | 13696 | 1100 | <LOD | 870 | <LOD | 750 | <LOD | 1125 | <LOD | 240 | 804.4 | 460 | <LOD | 195 | <LOD | 41.85 | <LOD | 35.25 | <LOD | 750 |
| 180 | NA-2 | 2 | 7/17/02 | <LOD | 570 | 19891.2 | 1400 | <LOD | 930 | <LOD | 795 | <LOD | 960 | <LOD | 22.65 | <LOD | 600 | <LOD | 57.15 | <LOD | 59.55 | <LOD | 225 | <LOD | 870 |
| 183 | NA-2 | 4 | 7/17/02 | <LOD | 435 | 10099.2 | 880 | 778 | 500 | <LOD | 675 | <LOD | 615 | <LOD | 195 | <LOD | 510 | <LOD | 165 | <LOD | 21.6 | <LOD | 29.4 | <LOD | 675 |
| 184 | NA-3 | 2 | 7/17/02 | <LOD | 645 | 23091.2 | 1699.2 | <LOD | 1080 | <LOD | 945 | <LOD | 750 | <LOD | 180 | <LOD | 525 | <LOD | 255 | <LOD | 210 | <LOD | 33.15 | <LOD | 675 |
| 187 | NA-3 | 4 | 7/17/02 | <LOD | 600 | 20492.8 | 1500 | 1060 | 700 | <LOD | 915 | <LOD | 705 | <LOD | 129.45 | <LOD | 330 | <LOD | 80.85 | <LOD | 111.6 | <LOD | 110.1 | <LOD | 630 |
| 188 | NA-4 | 2 | 7/17/02 | <LOD | 420 | 10796.8 | 940 | <LOD | 750 | <LOD | 720 | <LOD | 705 | <LOD | 18.6 | <LOD | 360 | <LOD | 195 | <LOD | 23.85 | <LOD | 32.1 | <LOD | 795 |
| 191 | NA-4 | 4 | 7/17/02 | <LOD | 495 | 7084.8 | 900 | <LOD | 795 | <LOD | 825 | <LOD | 1080 | <LOD | 195 | <LOD | 330 | <LOD | 210 | <LOD | 22.2 | <LOD | 28.65 | <LOD | 630 |
| 192 | NA-5 | 2 | 7/17/02 | <LOD | 630 | 22195.2 | 1699.2 | <LOD | 1095 | <LOD | 885 | <LOD | 735 | <LOD | 210 | <LOD | 450 | <LOD | 35.55 | <LOD | 20.55 | <LOD | 165 | <LOD | 735 |
| 195 | NA-5 | 4 | 7/17/02 | <LOD | 405 | 8576 | 820 | <LOD | 675 | <LOD | 600 | <LOD | 750 | <LOD | 141.45 | <LOD | 405 | <LOD | 225 | <LOD | 165 | <LOD | 165 | <LOD | 630 |
| 196 | NA-6 | 2 | 7/17/02 | <LOD | 540 | 18188.8 | 1300 | <LOD | 855 | <LOD | 855 | <LOD | 660 | <LOD | 12.3 | <LOD | 180 | <LOD | 150 | <LOD | 120.45 | <LOD | 90.6 | <LOD | 480 |
| 199 | NA-6 | 4 | 7/17/02 | <LOD | 525 | 10899.2 | 1000 | <LOD | 795 | <LOD | 795 | <LOD | 900 | <LOD | 19.95 | 1109.6 | 550 | <LOD | 270 | <LOD | 195 | <LOD | 195 | <LOD | 675 |
| 208 | NA-7 | 2 | 7/17/02 | <LOD | 555 | 15897.6 | 1300 | <LOD | 975 | <LOD | 900 | <LOD | 855 | <LOD | 165 | <LOD | 480 | <LOD | 210 | <LOD | 133.5 | <LOD | 31.2 | <LOD | 660 |
| 211 | NA-7 | 4 | 7/17/02 | <LOD | 525 | 16396.8 | 1300 | <LOD | 840 | <LOD | 750 | <LOD | 330 | <LOD | 240 | <LOD | 765 | <LOD | 65.4 | <LOD | 270 | <LOD | 210 | <LOD | 690 |
| 200 | NA-8 | 2 | 7/17/02 | <LOD | 450 | 9235.2 | 920 | <LOD | 795 | <LOD | 795 | <LOD | 430 | <LOD | 19.1 | <LOD | 420 | <LOD | 250 | <LOD | 32.1 | <LOD | 27.9 | <LOD | 660 |
| 202 | NA-8 | 4 | 7/17/02 | <LOD | 405 | 10297.6 | 880 | <LOD | 720 | <LOD | 690 | <LOD | 510 | <LOD | 14.3 | <LOD | 762 | <LOD | 180 | <LOD | 25.1 | <LOD | 33.1 | <LOD | 630 |
| 204 | NA-9 | 2 | 7/17/02 | <LOD | 570 | 16499.2 | 1300 | <LOD | 915 | <LOD | 780 | <LOD | 720 | <LOD | 165 | <LOD | 405 | <LOD | 136.35 | <LOD | 132.6 | <LOD | 28.95 | <LOD | 630 |
| 207 | NA-9 | 4 | 7/17/02 | <LOD | 525 | 12198.4 | 1100 | <LOD | 840 | <LOD | 750 | <LOD | 825 | <LOD | 165 | <LOD | 510 | <LOD | 137.25 | <LOD | 180 | <LOD | 31.65 | <LOD | 660 |
| 383 | NA-10 | 2.5 | 7/18/02 | <LOD | 525 | 15795.2 | 1200 | <LOD | 870 | <LOD | 765 | <LOD | 540 | <LOD | 117.75 | <LOD | 315 | <LOD | 180 | <LOD | 100.8 | <LOD | 100.8 | <LOD | 600 |
| 386 | NA-10 | 4 | 7/18/02 | <LOD | 315 | 9158.4 | 700 | <LOD | 540 | <LOD | 525 | <LOD | 705 | <LOD | 15 | <LOD | 315 | <LOD | 285 | <LOD | 123.45 | <LOD | 128.25 | <LOD | 600 |

<LOD: Below detection limit

Appendix C: XRF Data for the Manufacturing Area
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| XLNo | Boring Location | Depth (ft) | Date | Cd | Cd Error | Ag | Ag Error | Pd | Pd Error |
|------|-----------------|------------|---------|------|----------|------|----------|------|----------|
| 176 | NA-1 | 2 | 7/17/02 | <LOD | 9.3 | <LOD | 270 | <LOD | 7.2 |
| 179 | NA-1 | 4 | 7/17/02 | <LOD | 29.4 | <LOD | 315 | <LOD | 75.75 |
| 180 | NA-2 | 2 | 7/17/02 | <LOD | 65.7 | <LOD | 300 | <LOD | 35.25 |
| 183 | NA-2 | 4 | 7/17/02 | <LOD | 9.3 | <LOD | 285 | <LOD | 87.9 |
| 184 | NA-3 | 2 | 7/17/02 | <LOD | 9 | <LOD | 225 | <LOD | 80.7 |
| 187 | NA-3 | 4 | 7/17/02 | <LOD | 36.75 | <LOD | 210 | <LOD | 63.3 |
| 188 | NA-4 | 2 | 7/17/02 | <LOD | 11.1 | <LOD | 330 | <LOD | 104.55 |
| 191 | NA-4 | 4 | 7/17/02 | <LOD | 6.9 | <LOD | 240 | <LOD | 6.6 |
| 192 | NA-5 | 2 | 7/17/02 | <LOD | 9.3 | <LOD | 360 | <LOD | 9.75 |
| 195 | NA-5 | 4 | 7/17/02 | <LOD | 32.7 | <LOD | 225 | <LOD | 89.1 |
| 196 | NA-6 | 2 | 7/17/02 | <LOD | 72.15 | <LOD | 150 | <LOD | 4.5 |
| 199 | NA-6 | 4 | 7/17/02 | <LOD | 38.4 | <LOD | 225 | <LOD | 31.05 |
| 208 | NA-7 | 2 | 7/17/02 | <LOD | 59.85 | <LOD | 210 | <LOD | 73.95 |
| 211 | NA-7 | 4 | 7/17/02 | <LOD | 10.05 | <LOD | 300 | <LOD | 107.7 |
| 200 | NA-8 | 2 | 7/17/02 | <LOD | 21.3 | <LOD | 330 | <LOD | 6.7 |
| 202 | NA-8 | 4 | 7/17/02 | <LOD | 7.5 | <LOD | 230 | <LOD | 7.6 |
| 204 | NA-9 | 2 | 7/17/02 | <LOD | 8.25 | <LOD | 240 | <LOD | 73.65 |
| 207 | NA-9 | 4 | 7/17/02 | <LOD | 12.6 | <LOD | 240 | <LOD | 87.45 |
| 383 | NA-10 | 2.5 | 7/18/02 | <LOD | 84.15 | <LOD | 225 | <LOD | 30.75 |
| 386 | NA-10 | 4 | 7/18/02 | <LOD | 6.9 | <LOD | 195 | <LOD | 5.25 |

<LOD: Below detection limit

Appendix C: XRF Data for the Manufacturing Area
(Page 1 of 3)

| XLNo | Boring Location | Depth (ft) | Date | Mo | Mo Error | Zr | Zr Error | Sr | Sr Error | Rb | Rb Error | Pb | Pb Error | Se | Se Error | As | As Error | Hg | Hg Error | Zn | Zn Error | Cu |
|------|-----------------|------------|---------|------|----------|-------|----------|------|----------|-------|----------|------|----------|------|----------|------|----------|------|----------|--------|----------|------|
| 164 | MA-1 | 3 | 7/17/02 | <LOD | 53.4 | 205 | 43.1 | 80.1 | 30.7 | <LOD | 82.05 | <LOD | 56.25 | <LOD | 26.1 | <LOD | 47.85 | <LOD | 32.4 | 476 | 130 | <LOD |
| 167 | MA-1 | 4 | 7/17/02 | <LOD | 52.05 | 211.8 | 41.7 | 77.4 | 28.8 | <LOD | 70.2 | <LOD | 46.05 | <LOD | 22.35 | <LOD | 39.15 | <LOD | 29.7 | 210 | 91.1 | <LOD |
| 154 | MA-2 | 3 | 7/17/02 | <LOD | 40.95 | 265.2 | 41.4 | 90.3 | 27.2 | 112.2 | 53.6 | <LOD | 45.75 | <LOD | 18.3 | <LOD | 35.4 | <LOD | 22.2 | 327 | 92.8 | <LOD |
| 157 | MA-2 | 4 | 7/17/02 | <LOD | 35.85 | 135.1 | 28.2 | 42.6 | 20.1 | 69.6 | 40.6 | <LOD | 27 | <LOD | 19.5 | <LOD | 28.05 | <LOD | 16.2 | <LOD | 86.25 | <LOD |
| 158 | MA-3 | 6 | 7/17/02 | <LOD | 39.15 | 179.1 | 31.1 | <LOD | 26.1 | <LOD | 47.4 | <LOD | 44.1 | <LOD | 15.75 | <LOD | 32.7 | <LOD | 19.2 | <LOD | 85.35 | <LOD |
| 161 | MA-3 | 8 | 7/17/02 | <LOD | 44.85 | 251.8 | 38.1 | 75.1 | 24.2 | 63 | 41.3 | <LOD | 32.55 | <LOD | 15.15 | <LOD | 30.9 | <LOD | 25.35 | <LOD | 91.8 | <LOD |
| 146 | MA-4 | 6 | 7/17/02 | <LOD | 46.05 | 211.4 | 38 | 54.2 | 24 | 144.8 | 60 | <LOD | 47.1 | <LOD | 19.05 | <LOD | 32.4 | <LOD | 26.4 | 261.6 | 92.1 | <LOD |
| 149 | MA-4 | 8 | 7/17/02 | <LOD | 45.75 | 248.8 | 39.8 | 57.5 | 23.7 | 113.2 | 53.2 | <LOD | 44.7 | <LOD | 16.65 | <LOD | 34.5 | <LOD | 26.4 | 493.2 | 110 | <LOD |
| 150 | MA-5 | 3 | 7/17/02 | <LOD | 42.9 | 185.7 | 35.1 | 44.1 | 22.4 | 164.5 | 61.9 | <LOD | 53.4 | <LOD | 22.8 | <LOD | 41.25 | <LOD | 26.55 | 398 | 100 | <LOD |
| 153 | MA-5 | 4 | 7/17/02 | <LOD | 47.55 | 171.3 | 37.6 | 45.2 | 24.9 | 134.2 | 63.1 | <LOD | 49.2 | <LOD | 21.45 | <LOD | 42.75 | <LOD | 31.65 | 313 | 110 | <LOD |
| 142 | MA-6 | 4 | 7/17/02 | <LOD | 45.45 | 169.6 | 35.5 | 62.9 | 25.6 | 131.6 | 59.5 | <LOD | 47.4 | <LOD | 21.15 | <LOD | 39.15 | <LOD | 31.65 | 1739.2 | 200 | <LOD |
| 145 | MA-6 | 6 | 7/17/02 | <LOD | 43.5 | 208.2 | 36.7 | 56.9 | 23.6 | 148.7 | 59 | <LOD | 50.85 | <LOD | 23.25 | <LOD | 37.5 | <LOD | 24.75 | 186.3 | 76 | <LOD |
| 138 | MA-7 | 2 | 7/17/02 | <LOD | 44.55 | 169.3 | 34.1 | 51.7 | 23.4 | 124 | 55.9 | <LOD | 47.25 | <LOD | 18.75 | <LOD | 37.5 | <LOD | 26.55 | 193.5 | 82.8 | <LOD |
| 141 | MA-7 | 4 | 7/17/02 | <LOD | 45.15 | 254 | 39.6 | 77.9 | 25.4 | 92.3 | 48.6 | <LOD | 46.05 | <LOD | 19.2 | <LOD | 34.35 | <LOD | 23.85 | <LOD | 92.7 | <LOD |
| 168 | MA-8 | 2 | 7/17/02 | <LOD | 36.9 | 211.6 | 29.7 | 48.8 | 18.3 | 126.7 | 44.3 | <LOD | 36 | <LOD | 12.45 | <LOD | 30.3 | <LOD | 18 | 295 | 78.8 | <LOD |
| 171 | MA-8 | 4 | 7/17/02 | <LOD | 37.2 | 203.2 | 29.2 | 82.3 | 21 | 120.7 | 43.8 | <LOD | 34.05 | <LOD | 17.7 | <LOD | 30.9 | <LOD | 23.7 | 195.9 | 64 | <LOD |
| 172 | MA-9 | 2 | 7/17/02 | <LOD | 53.55 | 222.2 | 42.1 | 64.8 | 27.1 | 114.3 | 59.2 | <LOD | 40.05 | <LOD | 26.25 | <LOD | 38.55 | <LOD | 31.65 | 1500 | 200 | <LOD |
| 175 | MA-9 | 4 | 7/17/02 | <LOD | 49.35 | 163.2 | 40 | 48.3 | 27.4 | <LOD | 82.2 | <LOD | 54.15 | <LOD | 26.55 | <LOD | 46.8 | <LOD | 35.7 | 1180 | 190 | <LOD |
| 137 | MA-10 | 2 | 7/17/02 | <LOD | 45.9 | 233.8 | 37.9 | 60.1 | 23.4 | 133.7 | 55.3 | <LOD | 44.85 | <LOD | 23.4 | <LOD | 30 | <LOD | 22.35 | 272.6 | 83.9 | <LOD |
| 134 | MA-10 | 4 | 7/17/02 | <LOD | 42.75 | 176.5 | 34 | 44.3 | 22.2 | 144.4 | 58.3 | <LOD | 41.25 | <LOD | 25.5 | <LOD | 32.4 | <LOD | 30.45 | 262.4 | 86.2 | <LOD |

<LOD: Below detection limit

Appendix C: XRF Data for the Manufacturing Area
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| XLNo | Boring Location | Depth (ft) | Date | Cu Error | Ni | Ni Error | Co | Co Error | Fe | Fe Error | Mn | Mn Error | Cr | Cr Error | Eu | Eu Error | La | La Error | Ba | Ba Error | Cs |
|------|-----------------|------------|---------|-------------|--------|----------|-----|----------|-------------|----------|-----------|-------------|----|-----------|------------|----------|----------|----------|----|----------|----|
| 164 | MA-1 | 3 | 7/17/02 | 255 <LOD | | 420 <LOD | 975 | 48793.6 | 3299.2 <LOD | | 1650 <LOD | 1244.4 <LOD | | 1080 <LOD | 20.25 <LOD | | 300 <LOD | | | | |
| 167 | MA-1 | 4 | 7/17/02 | 180 <LOD | | 270 <LOD | 330 | 5600 | 680 <LOD | | 600 <LOD | 615 <LOD | | 840 <LOD | 210 <LOD | | 405 <LOD | | | | |
| 154 | MA-2 | 3 | 7/17/02 | 180 <LOD | | 255 <LOD | 360 | 7449.6 | 730 | 1420 | 510 <LOD | 705 <LOD | | 915 <LOD | 195 | 457.2 | 300 <LOD | | | | |
| 157 | MA-2 | 4 | 7/17/02 | 147.9 <LOD | | 225 <LOD | 300 | 5968 | 590 | 1819.2 | 480 <LOD | 615 <LOD | | 870 <LOD | 180 <LOD | | 330 <LOD | | | | |
| 158 | MA-3 | 6 | 7/17/02 | 138.15 <LOD | | 210 <LOD | 375 | 10195.2 | 810 | 3478.4 | 630 <LOD | 675 <LOD | | 870 <LOD | 195 <LOD | | 420 <LOD | | | | |
| 161 | MA-3 | 8 | 7/17/02 | 130.5 <LOD | | 195 <LOD | 300 | 5228.8 | 560 <LOD | | 510 <LOD | 540 <LOD | | 1170 <LOD | 135.3 | 661.2 | 350 <LOD | | | | |
| 146 | MA-4 | 6 | 7/17/02 | 195 | 639.6 | 220 <LOD | 480 | 14092.8 | 1100 <LOD | | 840 <LOD | 780 <LOD | | 1050 <LOD | 102.75 | 986.4 | 510 <LOD | | | | |
| 149 | MA-4 | 8 | 7/17/02 | 180 <LOD | | 285 <LOD | 420 | 11897.6 | 960 <LOD | | 735 <LOD | 750 <LOD | | 630 <LOD | 210 <LOD | | 375 <LOD | | | | |
| 150 | MA-5 | 3 | 7/17/02 | 180 <LOD | | 285 <LOD | 540 | 20390.4 | 1400 <LOD | | 945 <LOD | 840 <LOD | | 495 <LOD | 133.5 <LOD | | 360 <LOD | | | | |
| 153 | MA-5 | 4 | 7/17/02 | 210 <LOD | | 345 <LOD | 555 | 17792 | 1400 <LOD | | 975 <LOD | 810 <LOD | | 600 <LOD | 285 <LOD | | 510 <LOD | | | | |
| 142 | MA-6 | 4 | 7/17/02 | 240 <LOD | | 270 <LOD | 540 | 17689.6 | 1300 <LOD | | 930 <LOD | 840 <LOD | | 1170 <LOD | 255 <LOD | | 375 <LOD | | | | |
| 145 | MA-6 | 6 | 7/17/02 | 141.15 <LOD | | 240 <LOD | 405 | 8985.6 | 810 | 863.2 | 480 <LOD | 705 <LOD | | 1125 <LOD | 17.7 <LOD | | 570 <LOD | | | | |
| 138 | MA-7 | 2 | 7/17/02 | 180 <LOD | | 300 <LOD | 525 | 17996.8 | 1300 <LOD | | 870 <LOD | 750 <LOD | | 1155 <LOD | 195 | 615.6 | 410 <LOD | | | | |
| 141 | MA-7 | 4 | 7/17/02 | 146.1 <LOD | | 240 <LOD | 450 | 13491.2 | 1000 <LOD | | 750 <LOD | 675 <LOD | | 405 <LOD | 15.6 <LOD | | 330 <LOD | | | | |
| 168 | MA-8 | 2 | 7/17/02 | 180 | 1289.6 | 210 <LOD | 405 | 16000 | 949.6 | 1089.6 | 480 <LOD | 690 <LOD | | 750 <LOD | 180 <LOD | | 465 <LOD | | | | |
| 171 | MA-8 | 4 | 7/17/02 | 131.25 <LOD | | 195 <LOD | 345 | 12000 | 770 <LOD | | 600 <LOD | 555 <LOD | | 795 <LOD | 14.25 | 453.2 | 290 <LOD | | | | |
| 172 | MA-9 | 2 | 7/17/02 | 240 <LOD | | 300 <LOD | 570 | 16998.4 | 1400 <LOD | | 975 <LOD | 870 <LOD | | 1230 <LOD | 225 <LOD | | 510 <LOD | | | | |
| 175 | MA-9 | 4 | 7/17/02 | 270 <LOD | | 390 <LOD | 495 | 10496 | 1100 <LOD | | 855 <LOD | 780 <LOD | | 570 <LOD | 225 <LOD | | 435 <LOD | | | | |
| 137 | MA-10 | 2 | 7/17/02 | 150 <LOD | | 255 <LOD | 390 | 8934.4 | 790 <LOD | | 630 <LOD | 690 <LOD | | 525 <LOD | 180 <LOD | | 360 <LOD | | | | |
| 134 | MA-10 | 4 | 7/17/02 | 165 <LOD | | 255 <LOD | 465 | 14796.8 | 1100 <LOD | | 780 <LOD | 750 <LOD | | 1020 <LOD | 255 | 867.2 | 560 <LOD | | | | |

<LOD:Below detection limit

Appendix C: XRF Data for the Manufacturing Area
(Page 3 of 3)

| XLNo | Boring Location | Depth (ft) | Date | Cs | Error | Te | Te | Error | Sb | Sb | Error | Sn | Sn | Error | Cd | Cd | Error | Ag | Ag | Error | Pd | Pd | Error |
|------|-----------------|------------|---------|--------|-------|--------|------|-------|--------|------|-------|-----|------|-------|--------|------|-------|--------|------|-------|-------|----|-------|
| 164 | MA-1 | 3 | 7/17/02 | 43.65 | <LOD | 52.95 | <LOD | | 195 | <LOD | | 825 | <LOD | | 165 | <LOD | | 270 | <LOD | | 150 | | |
| 167 | MA-1 | 4 | 7/17/02 | 33.6 | <LOD | 20.55 | <LOD | | 165 | <LOD | | 720 | <LOD | | 8.4 | <LOD | | 255 | <LOD | | 6.9 | | |
| 154 | MA-2 | 3 | 7/17/02 | 111.6 | <LOD | 195 | <LOD | | 115.2 | <LOD | | 600 | <LOD | | 22.95 | <LOD | | 240 | <LOD | | 62.7 | | |
| 157 | MA-2 | 4 | 7/17/02 | 31.95 | <LOD | 40.2 | <LOD | | 40.5 | <LOD | | 690 | <LOD | | 121.05 | <LOD | | 270 | <LOD | | 80.4 | | |
| 158 | MA-3 | 6 | 7/17/02 | 270 | <LOD | 225 | <LOD | | 43.65 | <LOD | | 780 | <LOD | | 74.55 | <LOD | | 270 | <LOD | | 84.45 | | |
| 161 | MA-3 | 8 | 7/17/02 | 180 | <LOD | 19.35 | <LOD | | 24.9 | <LOD | | 660 | <LOD | | 26.4 | <LOD | | 255 | <LOD | | 83.7 | | |
| 146 | MA-4 | 6 | 7/17/02 | 195 | <LOD | 195 | <LOD | | 39 | <LOD | | 735 | <LOD | | 28.65 | <LOD | | 225 | <LOD | | 22.8 | | |
| 149 | MA-4 | 8 | 7/17/02 | 126.75 | <LOD | 105.45 | <LOD | | 136.95 | <LOD | | 600 | <LOD | | 42.3 | <LOD | | 140.85 | <LOD | | 33.75 | | |
| 150 | MA-5 | 3 | 7/17/02 | 40.2 | <LOD | 150 | <LOD | | 150 | <LOD | | 570 | <LOD | | 22.2 | <LOD | | 138.9 | <LOD | | 84.15 | | |
| 153 | MA-5 | 4 | 7/17/02 | 138.45 | <LOD | 134.4 | <LOD | | 137.25 | <LOD | | 660 | <LOD | | 27 | <LOD | | 195 | <LOD | | 36.6 | | |
| 142 | MA-6 | 4 | 7/17/02 | 35.25 | <LOD | 39.9 | <LOD | | 34.65 | <LOD | | 675 | <LOD | | 28.2 | <LOD | | 225 | <LOD | | 22.95 | | |
| 145 | MA-6 | 6 | 7/17/02 | 225 | <LOD | 225 | <LOD | | 41.55 | <LOD | | 705 | <LOD | | 131.1 | <LOD | | 270 | <LOD | | 8.25 | | |
| 138 | MA-7 | 2 | 7/17/02 | 150 | <LOD | 149.4 | <LOD | | 31.65 | <LOD | | 735 | <LOD | | 8.85 | <LOD | | 270 | <LOD | | 7.35 | | |
| 141 | MA-7 | 4 | 7/17/02 | 360 | <LOD | 25.2 | <LOD | | 33.3 | <LOD | | 690 | <LOD | | 110.4 | <LOD | | 210 | <LOD | | 72.3 | | |
| 168 | MA-8 | 2 | 7/17/02 | 255 | <LOD | 210 | <LOD | | 33.15 | <LOD | | 675 | <LOD | | 7.8 | <LOD | | 225 | <LOD | | 6.15 | | |
| 171 | MA-8 | 4 | 7/17/02 | 126 | <LOD | 103.8 | <LOD | | 31.05 | <LOD | | 585 | <LOD | | 102.6 | <LOD | | 195 | <LOD | | 62.25 | | |
| 172 | MA-9 | 2 | 7/17/02 | 195 | <LOD | 180 | <LOD | | 45.3 | <LOD | | 750 | <LOD | | 37.2 | <LOD | | 255 | <LOD | | 55.65 | | |
| 175 | MA-9 | 4 | 7/17/02 | 270 | <LOD | 22.5 | <LOD | | 132.6 | <LOD | | 705 | <LOD | | 8.55 | <LOD | | 210 | <LOD | | 29.55 | | |
| 137 | MA-10 | 2 | 7/17/02 | 143.7 | <LOD | 140.1 | <LOD | | 30.3 | <LOD | | 780 | <LOD | | 8.85 | <LOD | | 138.9 | <LOD | | 3.6 | | |
| 134 | MA-10 | 4 | 7/17/02 | 210 | <LOD | 255 | <LOD | | 285 | <LOD | | 870 | <LOD | | 11.4 | <LOD | | 345 | <LOD | | 9.45 | | |

<LOD:Below detection limit

A P P E N D I X D

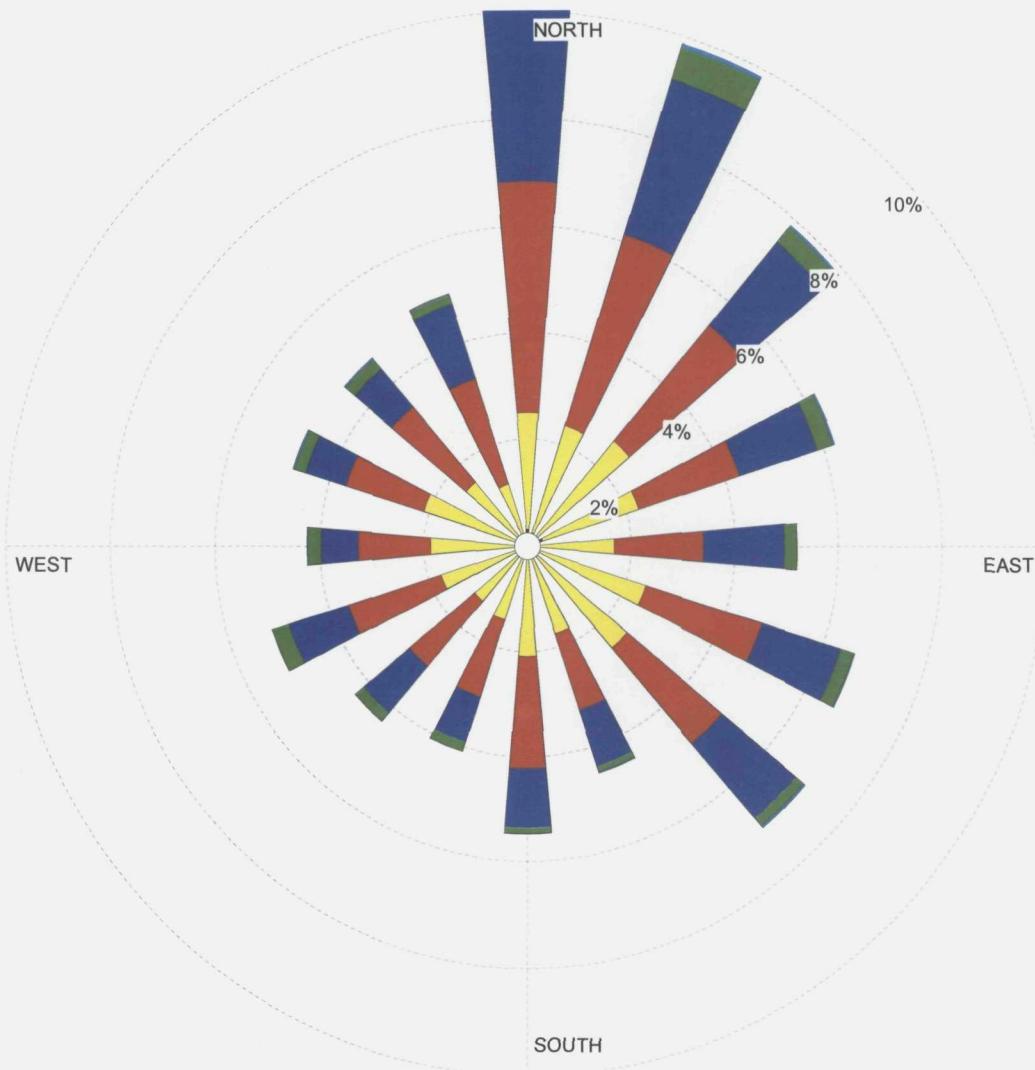
Wind Rose Diagram

WIND ROSE PLOT:
Station #93822 - SPRINGFIELD/CAPITAL ARPT, IL

DISPLAY:
Wind Speed
Flow Vector (blowing to)

COMMENTS:
NO DEPOSITION

Eagle Zinc
Hillsboro, IL



WIND SPEED
(m/s)

| |
|------------|
| >= 11.1 |
| 8.8 - 11.1 |
| 5.7 - 8.8 |
| 3.6 - 5.7 |
| 2.1 - 3.6 |
| 0.5 - 2.1 |

DATA PERIOD:
1987
Jan 1 - Dec 31
00:00 - 23:00

TOTAL COUNT: CALM WINDS:
8760 hrs. **3.12%**

AVG. WIND SPEED:
4.63 m/s

COMPANY NAME:
ENVIRON International Corporation

MODELER:
N. Goldstein

DATE:
11/15/02

PROJECT NO.:
21-7400E

A P P E N D I X E

Zinc/Cadmium Correlation for Soils

Appendix E: Zinc/Cadmium Correlation for Soils

